

January 31, 2021

Via Sharefile

Ms. Julia Galayda
Bureau of Case Management
New Jersey Department of Environmental Protection
401 East State Street
PO Box 28
Trenton, New Jersey 08625-0028

Re: Semi-Annual Groundwater Monitoring Report (July-December 2020)

Hess Corporation – Former Port Reading Complex (HC-PR)

750 Cliff Road

Port Reading, Middlesex County, New Jersey

Dear Ms. Galayda:

Enclosed please find the December 2020 Semi-Annual Groundwater Monitoring Report for the above referenced facility's North Landfarm, South Landfarm, and No. 1 Landfarm. This report was prepared by Earth Systems, Inc. on behalf of Hess Corporation, and presents the results of the monitoring and sampling events conducted in July and October 2020. The next monitoring and sampling events will be conducted in January and April 2021, with the results presented in the July 2021 report.

Should you have any questions or comments relating to this report, please call me at 732-739-6444. I can also be reached via e-mail at ablake@earthsys.net. If you have any questions relating to the project and schedule moving forward, you can also contact Mr. John Schenkewitz of Hess Corporation at 609-406-3969.

Sincerely,

Earth Systems, Inc.

Amy Blake

Senior Project Manager

cc: Mr. Andy Park – USEPA Region II (electronic copy)

Mr. John Schenkewitz – Hess Corporation (electronic copy)

Mr. Rick Ofsanko – Earth Systems, Inc. (electronic copy)

Mr. John Virgie – Earth Systems, Inc. (electronic copy)

SEMI-ANNUAL GROUNDWATER MONITORING REPORT

HESS CORPORATION - FORMER PORT READING COMPLEX NORTH LANDFARM, SOUTH LANDFARM, AND NO.1 LANDFARM

July - December 2020

Hess Corporation – Former Port Reading Complex 750 Cliff Road Port Reading, Middlesex County New Jersey

January 2021

Prepared for:



Hess Corporation

Trenton-Mercer Airport 601 Jack Stephan Way West Trenton, New Jersey 08628

Prepared by:



1625 Highway 71 Belmar, New Jersey 07719

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1.0 Introduction and Summary Table

Earth Systems, Inc. (Earth Systems) has been retained by Hess Corporation (Hess) to provide environmental consulting services for the Hess Corporation – Former Port Reading Complex (HC-PR) facility located at 750 Cliff Road in Port Reading (Woodbridge Township), Middlesex County, New Jersey. A United States Geological Survey (USGS) 7.5-minute series quadrangle map (Arthur Kill, New Jersey) depicting the site location, facility and associated land features is included as **Figure 1**. A Site Plan has been included as **Figure 2**.

This report documents the groundwater monitoring activities completed in third and fourth quarters of 2020 for the North Landfarm, South Landfarm, and No. 1 Landfarm.

SUMMARY OF ACTIONS

Location	Case Number/ Description	Description and Dates of Action
AOC-1	North Landfarm	Quarterly Groundwater Monitoring Events – July & October 2020
AOC-2	South Landfarm	Quarterly Groundwater Monitoring Events – July & October 2020
AOC-3	No. 1 Landfarm	Quarterly Groundwater Monitoring Events – July & October 2020 Leachate Sampling Event –December 2020

2.0 North Landfarm

2.1 Historic Information

The United States Environmental Protection Agency (US EPA) issued a Hazardous and Solid Waste Amendments (HSWA) Permit (No. NJD045445483) for the Port Reading facility effective May 1, 1988. The HSWA Permit requires the nature, extent, and rate of migration be determined for hazardous waste or hazardous constituents in soils, groundwater, and sediment at any solid waste management unit (SWMU).

On November 14, 1995, HC-PR was informed, via New Jersey Department of Environmental Protection (NJDEP) correspondence, that the Bureau of Federal Case Management (BFCM) would assume oversight of the North and South Landfarms in addition to other applicable areas of concern.

The North Landfarm operated from 1975 to October 24, 1985, receiving Interim Status in 1980. As part of the USEPA permitting process and the Discharge to Groundwater permitting process under the New Jersey Pollutant Discharge Elimination System (NJPDES) for the facility, HC-PR elected to close the North Landfarm.

The North Landfarm is located in the northern portion of the facility. It is bound on the west and north by the earthen retention dike of Tank 7945 and on the east and south by a dike system built to retain run-off from the Landfarm. The surface area of the North Landfarm is approximately one-third of an acre. The Landfarm is underlain by dredged fill and native marsh soils containing silt and clay.

The North Landfarm formerly treated 2 listed hazardous waste streams, API Separator Sludge (K051) and Leaded Tank Bottoms (K052). The total volume of waste applied to the North Landfarm from 1978 until October 24, 1985 was estimated at 21 tons. The quantity of hazardous waste applied to the Landfarm during this period was estimated at 15 tons. Non-hazardous biomass was applied to the Landfarm until approximately 1988.

2.2 Site Specific Geology and Hydrogeology

The North Landfarm is situated upon approximately 8 feet of dredge fill material from the Arthur Kill. The source of the dredge fill is from the deepening of the Arthur Kill and consists of reddish-brown sands with clay and silt. Underlying this fill layer is a layer that consists of predominately-clayey silt and organic matter. This layer gradually transitions to an organic fibrous material (peat) zone with silty clay. The peat layer starts at approximately 10 feet below ground surface (bgs).

The general flow of the unconfined groundwater beneath the North Landfarm is to the northeast. The waters from the upper unconfined aquifer merge with the North Drainage Ditch. The North Drainage Ditch trends northwest to southeast and connects to the Arthur Kill approximately 2,100 feet southeast of the Landfarm.

The normal daily tide elevations in the Arthur Kill range from a low tide of about -2.3 feet below the National Geodetic Vertical Datum (NGVD) of 1929 to a high tide of +4.3 feet above NGVD. At typical high tide, the North Drainage Ditch fills with water and at low tide the ditch is typically dry. There is no significant westward flow of water at high tide and no significant outward flow of water at low tide.

The North Landfarm is surrounded by diked containment walls, which prevent the discharge of Landfarm surface water. A groundwater monitoring well network has been established for the North Landfarm to monitor potential releases of constituents from the Landfarm. These wells are monitored, sampled, and analyzed on a quarterly basis in accordance with the NJPDES permit. The most recent analytical results are presented below.

2.3 Hydraulic Monitoring Results

On July 10 and October 5, 2020, depth to water measurements were collected from the North Landfarm monitoring wells LN-1 through LN-7. Groundwater elevation contour data from the July and October 2020 monitoring events are summarized in **Table 1**.

Groundwater flow direction, as depicted on the groundwater contour maps (**Figures 3 & 4**), is generally toward the north and northeast, which is consistent with historic observations.

2.4 Groundwater Monitoring

On July 14, as well as October 6, 2020, groundwater samples and field parameters were collected using a Horiba U52 water quality meter. The parameters included temperature, conductivity, dissolved oxygen, turbidity, redox potential, and pH. Groundwater elevation measurements were collected utilizing a Solinist oil/water interface probe, accurate to one hundredth of a foot. Groundwater monitoring records are included in **Appendix A**.

Prior to groundwater purging, the pump intake depth placement was determined by water level, screen depth, and contaminants of concern. The contaminants of concern for the landfarms are petroleum related compounds. Therefore, the appropriate sampling interval is the top of the groundwater column and the pump was placed in the top 2 feet of the saturated screen. The depth of the pump was recorded on the low-flow field worksheets. These field worksheets are included in Appendix A. Groundwater purging was conducted at each well utilizing a Monsoon submersible pump with Teflon-lined 1/4 inch polyethylene tubing. Groundwater field parameters were collected using a Horiba U-52 water quality meter and flow cell. The Horiba U-52 was calibrated by both the rental company as well as by field personnel. The Horiba was calibrated in accordance with the manufacturer's instructions and in accordance with Earth Systems' Standard Operating All calibration documentation is included in **Appendix A**. The field parameters which were monitored include temperature, conductivity, dissolved oxygen, turbidity, redox potential, and pH. Groundwater elevation measurements were collected utilizing a Solinist oil/water interface probe. Groundwater elevations were recorded prior to pump placement and continuously during well purging. The total depth of the well was measured either 48 hours prior to well sampling or at the conclusion of well sampling to prevent disturbing any sediment present at the base of the well prior to sampling. During well purging, the monitored parameters were measured every 5 minutes until 3 consecutive stable readings were recorded. In accordance with the Field Sampling Procedures Manual (FSPM) Section 6.9.2.2.5.2, the following values were utilized to determine stability for the monitored parameters:

- pH +/- 0.1 unit
- Specific Conductance +/- 3%
- Temperature +/- 3%
- Dissolved Oxygen +/- 10%
- Turbidity +/- 10% for values greater than 1 NTU
- ORP +/- 10 millivolts
- Water level drawdown < 0.3 feet

The parameter readings and the water level drawdown were recorded on the low-flow field worksheets. Any variances were also recorded on the low-flow stabilization sheets.

Groundwater monitoring records, which include low-flow field worksheets and calibration information, are included in **Appendix A**.

Prior to and at the completion of groundwater sampling of each monitoring well, the Horiba U-52 water quality meter, flow cell, and submersible pump were properly decontaminated using Alconox and a distilled or deionized water rinse. Tubing was discarded after the sampling of each well and was not reused.

Following well water purging and stabilization, groundwater samples were collected and placed into laboratory provided containers. All groundwater samples were collected directly from the tubing, once disconnected from the flow cell. All samples were appropriately labeled, logged, and placed into a cooler with ice prior to submittal to the laboratory. Quality control samples, including trip blanks and field blanks, were collected and submitted for analysis to evaluate the potential for cross contamination.

Groundwater samples were collected from monitoring wells LN-1 through LN-7 on July 14, 2020 and October 6, 2020. SGS-Accutest Laboratories (SGS) of Dayton, New Jersey (NJ NELAP Certification No. 12129) provided the analytical services.

2.5 Groundwater Analytical Results – July 2020

On July 14, 2020, monitoring wells LN-1 through LN-7 were sampled and analyzed for select volatile organic compounds (VOCs), metals, pesticides and various wet chemistry parameters as specified in the October 24, 1984 Draft Interim NJPDES Permit #0028878. The results of the July 2020 North Landfarm groundwater sampling event are summarized in **Table 2**.

Targeted VOCs and pesticides were not detected above the Groundwater Quality Standards (GWQS) in the groundwater samples collected from monitoring wells LN-1 through LN-7.

Select metals were detected at concentrations above the GWQS in groundwater samples collected from all monitoring wells. General chemistry parameters were also detected above the GWQS in all groundwater samples, excluding the groundwater samples collected from wells LN-2 and LN-5. The following table summarizes the metals and general chemistry laboratory results.

Client Sample ID:		NJ Groundwater Criteria (NJAC	LN-1 JD10090-3	LN-2 JD10090-4	LN-3 JD10090-5	LN-4 JD10288-3	LN-5 JD10288-4	LN-6 JD10090-6	LN-7 JD10090-7
Date Sampled:		7:9C 9/4/18)	7/14/2020	7/14/2020	7/14/2020	7/16/2020	7/16/2020	7/14/2020	7/14/2020
Date Sampled.		7:9C 9/4/18)	7/14/2020	7/14/2020	1/14/2020	7/10/2020	7/10/2020	7/14/2020	7/14/2020
Matrix:			Ground Water						
Metals Analysis									
Arsenic	ug/l	3	ND (3.0)	4.6	8.2	16.5	3.9	9.8	5
Iron	ug/l	300	45100	25000	49600	44100	6010	41300	31300
Manganese	ug/l	50	913	339	837	869	42.8	920	725
Sodium	ug/l	50000	252000	89600	184000	581000	38100	144000	86800
General Chemistry									
Chloride	mg/l	250	321	158	208	1110	33	234	159
Nitrogen, Ammonia	mg/l	3	4.6	2.7	4.9	2.4	ND (0.20)	3.4	3.5
Solids, Total Dissolved	mg/l	500	830	374	590	1940	256	622	446

Blue shading indicates exceedance of GWQS

2.6 Groundwater Analytical Results – October 2020

On October 6, 2020, monitoring wells LN-1 through LN-7 were sampled and analyzed for select VOCs, metals, pesticides, and various wet chemistry parameters as specified in the October 24, 1984 Draft Interim NJPDES Permit #0028878. The results of the October 2020 North Landfarm groundwater sampling event are summarized in **Table 3**.

Targeted VOCs and pesticides were not detected above the GWQS in the groundwater samples collected from monitoring wells LN-1 through LN-7.

Select metals were detected at concentrations above the GWQS in groundwater samples collected from all monitoring wells. General chemistry parameters were also detected above the GWQS in all groundwater samples, excluding the groundwater samples collected from wells LN-2 and LN-5. The following table summarizes the metals and general chemistry laboratory results.

Client Sample ID:		NJ Groundwater	LN-1	LN-2	LN-3	LN-4	LN-5	LN-6	LN-7
Lab Sample ID:		Criteria (NJAC	JD14256-1	JD14256-2	JD14256-3	JD14256-4	JD14256-7	JD14256-5	JD14256-6
Date Sampled:		7:9C 9/4/18)	10/6/2020	10/6/2020	10/6/2020	10/6/2020	10/6/2020	10/6/2020	10/6/2020
Matrix:			Ground Water						
Metals Analysis									
Arsenic	ug/l	3	5	4.9	11.2	16.6	ND	11.4	7.8
Iron	ug/l	300	39900	24900	41600	29600	2000	40900	31300
Manganese	ug/l	50	764	354	697	609	25.3	867	892
Sodium	ug/l	50000	177000	103000	175000	508000	46300	146000	173000
General Chemistry									
Chloride	mg/l	250	281	190	208	880	33.6	258	278
Nitrogen, Ammonia	mg/l	3	4.5	2.7	4.8	2.2	ND	4.1	3.2
Solids, Total Dissolved	mg/l	500	ND	80	80	760	80	10	110

ND – Non-Detect

Blue shading indicates exceedance of GWQS

2.7 Conclusions

The two main contaminants of concern for the North Landfarm groundwater are arsenic and lead. A summary of arsenic and lead concentrations for the last 12 quarterly sampling events is included below.

Arsenic Concentrations

Arsenic concentrations have been generally consistent for the last 12 quarterly groundwater sampling events. The following table summarizes the arsenic exceedances from January 2018 through October 2020.

Well ID	GWQS	1/23/2018	4/24/2018	7/26/2018	10/4/2018	1/15/2019	4/15/2019	7/9/2019	10/24/2019	1/22/2020	4/14/2020	7/14/2020	10/6/2020
LN-1	3	3.9	<3.0	<3.0	3.8	<3.0	<3.0	4.3	13.7	<3.0	9.6	<3.0	5
LN-2	3	<3.0	<3.0	<3.0	<3.0	5.9	4.3	3.8	<3.0	3.2	4.5	4.8	4.9
LN-3	3	4.9	8.3	9	6.5	4.8	<3.0	9.9	6.1	6.6	9	8.2	11.2
LN-4	3	6.4	8.6	13.2	11.5	10.5	9.9	14.5	17.8	11.2	12.1	16.5	16.6
LN-5	3	15.1	6.8	3	60	13.6	27	15.6	20	5.2	11.6	3.9	<3.0
LN-6	3	7.1	6.3	8.8	3.9	<3.0	6.8	7	7.6	4.7	6	9.8	11.4
LN-7	3	5.4	3.3	10.6	4	3.9	<3.0	5.9	8	5.2	8.3	6	7.8

Blue shading indicates exceedance of GWQS

Lead Concentrations

Lead concentrations have been below the GWQS for the last 4 rounds of groundwater sampling for monitoring well LN-1. Lead concentrations have decreased in the groundwater samples collected from monitoring well LN-5 during the last 2 rounds of sampling. The following table summarizes the lead exceedances from January 2018 through October 2020.

Well ID	GWQS	1/23/2018	4/24/2018	7/26/2018	10/4/2018	1/15/2019	4/15/2019	7/9/2019	10/24/2019	1/22/2020	4/14/2020	7/14/2020	10/6/2020
LN-1	5	7.6	<3.0	<3.0	7.1	<3.0	4.4	<3.0	18.4	3.8	4.7	<3.0	4.6
LN-5	5	<15.0	8	3.3	270	42.8	146	50.9	69.5	22.5	45.2	9.9	3.6

Blue shading indicates exceedance of GWQS

The required Electronic Data Documentation (EDDs) is presented in **Appendix B**. The electronic laboratory analytical data packages for the samples collected for the North Landfarm are presented in **Appendix C**.

3.0 South Landfarm

3.1 Historic Information

The South Landfarm was constructed in 1975 above a former surface impoundment that previously received oily wastewaters. The South Landfarm was utilized for the treatment of oily soils and oily sludges from the onsite API Separator, corrugated plate separator, recoverable (slop) oil tank bottoms, and the tank bottoms of petroleum storage tanks.

The South Landfarm was operated during the refinery standby period from 1975 until 1984. In 1980, the South Landfarm received Resource Conservation and Recovery Act (RCRA) "Interim Status" for operation as a RCRA land treatment unit for process wastes (K051 and K052).

3.2 Site Specific Geology and Hydrogeology

The South Landfarm is situated upon approximately 8 feet of dredge fill material from the Arthur Kill. The source of the dredge fill is from the deepening of the Arthur Kill and consists of reddish-brown sands with clay and silt. Underlying this fill layer is an organic rich clayey silt unit that changes to a silty clay marsh layer at approximately 10 to 20 feet bgs. This marsh layer provides an effective aquitard (i.e., a confining barrier/layer) between the upper unconfined water table directly beneath the Landfarm, and the deeper confined water table underlying the marsh layer.

Hydrogeologic data indicates that well LS-3 is screened in poorly consolidated silty clay, which differs from the other south landfarm wells that have screened intervals that include sand units.

3.3 Hydraulic Monitoring Results

On July 10 and October 5, 2020, depth to water measurements were collected from the South Landfarm monitoring wells LS-1R and LS-2 through LS-4. Groundwater elevation contour data from the July and October 2020 monitoring events is summarized in **Table 1**.

Groundwater flow direction, as depicted on the groundwater contour maps (**Figures 5 & 6**), is generally to the south, which is consistent with historic observations.

3.4 Groundwater Monitoring

On July 16 and October 8, 2020, groundwater samples were collected via low-flow sampling methodology in accordance with the NJDEP's *FSPM*. Groundwater sampling protocols are summarized in detail in **Section 2.4**.

Groundwater monitoring records, which include low-flow field worksheets and calibration information, are included in **Appendix A**.

Groundwater samples were collected from monitoring wells LS-1R, LS-2, LS-3, and LS-4 on July 16, 2020 and October 8, 2020. SGS of Dayton, New Jersey (NJ NELAP Certification No. 12129) provided the analytical services.

3.5 Groundwater Analytical Results – July 2020

On July 16, 2020, groundwater samples were collected from wells LS-1R, LS-2, LS-3, and LS-4 and analyzed for select VOCs, metals, and general chemistry parameters in accordance with NJPDES Permit #0028878. Analytical results from the July 2020 South Landfarm groundwater sampling event are summarized in **Table 4.**

Benzene was detected in the groundwater samples collected from monitoring wells LS-3 and LS-4 at concentrations above the GWQS. Tert butyl alcohol (TBA) was detected in the groundwater sample collected from monitoring well LS-3 at concentrations above the GWQS. Arsenic and iron were detected at concentrations above the GWQS in the groundwater samples collected from all monitoring wells. General chemistry parameters were also detected above the GWQS in the groundwater samples collected from monitoring wells LS-2, LS-3, and LS-4. The following table summarizes the laboratory results.

Client Sample ID:		NJ Groundwater	LS-1R	LS-2	LS-3	LS-4
Lab Sample ID:		Criteria (NJAC	JD10277-3	JD10277-4	JD10277-5	JD10277-6
Date Sampled:		7:9C 9/4/18)	7/16/2020	7/16/2020	7/16/2020	7/16/2020
Matrix:			Ground Water	Ground Water	Ground Water	Ground Water
MS Volatiles (SW846 8260C)						
Benzene	ug/l	1	ND (0.43)	0.52	10	5.3
Tert Butyl Alcohol	ug/l	100	ND (5.8)	ND (5.8)	977	32.5
Metals Analysis						
Arsenic	ug/l	3	19.4	59.7	12.6	29.2
Iron	ug/l	300	12200	3930	110000	9300
General Chemistry						
Chloride	mg/l	250	77.5	283	3130	434
Nitrogen, Ammonia	mg/l	3	1.8	1.7	11.6	24.2
Solids, Total Dissolved	mg/l	500	390	778	6490	882

ND - Non-Detect

Blue shading indicates exceedance of GWQS

3.6 Groundwater Analytical Results – October 2020

On October 8, 2020, groundwater samples were collected from wells LS-1R, LS-2, LS-3, and LS-4 and analyzed for select VOCs, metals, and general chemistry parameters in accordance with NJPDES Permit #0028878. Analytical results from the October 2020 South Landfarm groundwater sampling event are summarized in **Table 5**.

Benzene was detected in the groundwater samples collected from monitoring wells LS-3 and LS-4 at concentrations above the GWQS. TBA was detected in the groundwater sample collected from monitoring well LS-3 at concentrations above the GWQS. Several metals were detected at concentrations above the GWQS in the groundwater samples collected from all monitoring wells. General chemistry parameters were also detected above the GWQS in the groundwater samples collected from monitoring wells LS-2, LS-3, and LS-4. The following table summarizes the laboratory results.

Client Sample ID:		NJ Groundwater	LS-1R	LS-2	LS-3	LS-4
Lab Sample ID:		Criteria (NJAC	JD14484-3	JD14484-4	JD14484-5	JD14484-6
Date Sampled:		7:9C 9/4/18)	10/8/2020	10/8/2020	10/8/2020	10/8/2020
Matrix:			Ground Water	Ground Water	Ground Water	Ground Water
				•		
MS Volatiles (SW846 8260D)						
Benzene	ug/l	1	ND (0.43)	ND (0.43)	3.9	3.5
Tert Butyl Alcohol	ug/l	100	ND (5.8)	6.1 J	1070	82.9
Metals Analysis						
Arsenic	ug/l	3	11.9	43.6	12.7	24.2
Iron	ug/l	300	11400	2580	84000	6740
Manganese	ug/l	50	2710	172	1390	154
Sodium	ug/l	50000	82500	174000	1660000	376000
General Chemistry						
Chloride	mg/l	250	83.8	368	3340	514
Nitrogen, Ammonia	mg/l	3	1.4	1.8	9.5	25.1
Solids, Total Dissolved	mg/l	500	250	953	4630	1080

ND- Non-Detect

Blue shading indicates exceedance of GWQS

3.7 Conclusions

The three main contaminants of concern for the South Landfarm monitoring wells are benzene, TBA, and arsenic. A summary of benzene, TBA, and arsenic concentrations for the last 12 quarterly sampling events is included below.

Benzene Concentrations

Benzene concentrations have been generally consistently below the GWQS for the last 12 quarterly groundwater sampling events for monitoring wells LS-1 and LS-2. Benzene concentrations have fluctuated in the groundwater samples collected from monitoring wells LS-3 and LS-4 (summarized below).

Monitoring Well LS-3

Benzene concentrations have ranged from a high of 88.1 parts per billion (ppb) (April 2018) to a low of 3.9 ppb (October 2020) in the groundwater samples collected from well LS-3.

Monitoring Well LS-4

Benzene concentrations have fluctuated from a high of 24.8 pb (October 2018) to a low of 0.73 ppb (April 2018) in the groundwater samples collected from well LS-4.

The following table summarizes the benzene exceedances from January 2018 through October 2020.

Well ID	GWQS	1/25/2018	4/25/2018	7/25/2018	10/5/2018	1/17/2019	4/17/2019	7/11/2019	10/22/2019	1/23/2020	4/14/2020	7/16/2020	10/8/2020
LS-2	1	ND	0.26	1.2	1.1	ND	ND	0.51	2.4	ND	ND	0.52	ND
LS-3	1	32.1	88.1	18	8.9	61.6	58.2	15.3	10.5	51.4	51.5	10	3.9
LS-4	1	1.3	0.86	9.4	24.8	2.2	5.9	20.4	4.2	0.73	1.1	5.3	3.5

Blue shading indicates exceedance of GWQS

TBA Concentrations

TBA has only been detected in 2 of the South Landfarm monitoring wells: LS-3 and LS-4. TBA has been consistently detected at concentrations over the GWQS for the last 11 sampling events for well LS-3. TBA has only been intermittently detected at concentrations over the GWQS in groundwater samples collected from well LS-4, and has been below the GWQS for the last 5 sampling events for well LS-4. The following table summarizes the TBA exceedances from January 2018 through October 2020.

Well ID	GWQS	1/25/2018	4/25/2018	7/25/2018	10/5/2018	1/17/2019	4/17/2019	7/11/2019	10/22/2019	1/23/2020	4/14/2020	7/16/2020	10/8/2020
LS-3	100	76.4	126	417	494	239	210	530	801	337	387	977	1070
LS-4	100	ND	14.3	32.3	132	128	29.7	103	82.1	10.8	12.1	32.5	82.9

Blue shading indicates exceedance of GWQS

Arsenic Concentrations

Arsenic concentrations have been generally consistent for the last 12 quarterly groundwater sampling events for all South Landfarm monitoring wells, excluding monitoring well LS-2. Arsenic concentrations have fluctuated in the groundwater samples collected from monitoring well LS-2. The following table summarizes the arsenic exceedances from January 2018 through October 2020.

Well ID	GWQS	1/25/2018	4/25/2018	7/25/2018	10/5/2018	1/17/2019	4/17/2019	7/11/2019	10/22/2019	1/23/2020	4/14/2020	7/16/2020	10/8/2020
LS-1R	3	10	3.7	20.6	12.7	8.3	10.8	19.6	23.4	12.9	6.5	19.4	11.9
LS-2	3	24	40.6	55.9	65.6	29.7	41.8	46.7	104	28.4	31.6	59.7	43.6
LS-3	3	7.7	7	8	<3.0	6.1	8.2	9.7	11	11.3	8	12.6	12.7
LS-4	3	20.9	14.9	22.7	25.9	15.9	22.7	29.6	20.9	19.8	15.4	29.2	24.2

Blue shading indicates exceedance of GWQS

The required EDDs are presented in **Appendix B**. The electronic laboratory analytical data packages associated with the samples collected for the South Landfarm in July and October 2020 are presented in **Appendix C**.

4.0 No. 1 Landfarm

4.1 Historic Information

The No. 1 Landfarm began operations in December 1985 under a revised Part A Interim Status Permit granted by the NJDEP on April 26, 1984 and the RCRA Industrial Waste Management Facility (IWMF) Operating Permit (Interim NJPDES Discharge to Groundwater Permit #0028878 issued in April 1985) for operation of the No. 1 Landfarm.

The No. 1 Landfarm is lined with an impermeable compacted clay liner. Above the clay liner is a leachate collection system, which collects water that that has percolated through the treatment zone of the Landfarm. The leachate collection system was designed not to allow any leachate (soil-pore water) discharges into the groundwater.

The Landfarm was permitted to treat 4 RCRA hazardous waste streams - API Separator Sludge (K-051), heat exchanger bundle cleaning sludge (K-050), leaded tank bottoms (K-052), and Tetraethyl Lead (TEL) tank bottoms (P-110).

4.2 Site Specific Geology and Hydrogeology

The No. 1 Landfarm area was constructed on top of dredged sediments from the Arthur Kill, as indicated in the May 10, 1984 RCRA Part B Permit Application.

The North Drainage Ditch is a tidal stream adjacent to the north end of the Landfarm and runs southeast to northwest. This ditch is a transitory municipal storm water drainage channel. A smaller ditch, located to the west of the No. 1 Landfarm, drains into the larger municipal stormwater ditch.

During monitoring well L1-2 installation, a gravel layer was encountered and was likely applied as fill within the bed of a buried tributary to the Smith Creek that existed prior to construction of the refinery facility. The tributaries and Smith Creek were filled in as the facility was constructed.

A pumping test was conducted on well L1-2 on April 3, 1987. The results from this pumping test were provided in the 2001 Comprehensive Management Plan (CMP). Based on this data, it has been estimated that the velocity of the groundwater in the No. 1 Landfarm area to be approximately 5-feet per day (feet/day). This velocity is consistent with typical gravelly sand horizons under the relatively steep hydraulic gradient observed in this area. This is more than an order of magnitude faster than other observed locations at the facility.

4.3 Hydraulic Monitoring Results

On July 10 and October 5, 2020, depth to water measurements were collected from the No. 1 Landfarm monitoring wells L1-1 through L1-4, BG-2, and BG-3. Groundwater elevation contour data from the July and October 2020 monitoring events are summarized in **Table 1.**

Groundwater flow direction is generally to the north, northeast toward the North Drainage Ditch, which is consistent with historic observations.

Groundwater contour maps are included as Figure 7 and Figure 8.

4.4 Groundwater Monitoring

On July 15 and October 7, 2020, groundwater samples were collected via low-flow sampling methodology in accordance with the NJDEP's *FSPM*. Groundwater sampling protocols are summarized in detail in **Section 2.4**.

Groundwater monitoring records, which include low-flow field worksheets and calibration information, are included in **Appendix A**.

Groundwater samples were collected from monitoring wells L1-1 through L1-4, BG-2, and BG-3 on July 15, 2020 and October 7, 2020. A leachate sample was collected on December 11, 2020. The December leachate sample was collected directly from the sampling port, located prior to treatment, in the leachate collection system. SGS of Dayton, New Jersey (NJ NELAP Certification No. 12129) provided the analytical services.

4.5 Groundwater Analytical Results – July 2020

On July 15, 2020, groundwater samples were collected from monitoring wells L1-1 through L1-4, BG-2, and BG-3, and analyzed for select VOCs, semi-volatile organic compounds (SVOCs), metals, and general chemistry parameters in accordance with the NJPDES Permit #NJ0028878. Analytical results from the July 2020 No. 1 Landfarm groundwater sampling event are summarized in **Table 6**.

Targeted VOCs and SVOCs were not detected in the groundwater samples at concentrations above the GWQS in all No. 1 Landfarm monitoring wells. Select metals were detected at concentrations above the GWQS in groundwater samples collected from all monitoring wells. The following table summarizes the laboratory results.

Client Sample ID:			L1-1	L1-2	L1-3	L1-4	BG-2	BG-3
Lab Sample ID:		NJ Groundwater	JD10216-3	JD10216-4	JD10216-5	JD10216-6	JD10216-7	JD10216-8
Date Sampled:		Criteria	7/15/2020	7/15/2020	7/15/2020	7/15/2020	7/15/2020	7/15/2020
Matrix:			Ground Water					
Metals Analysis								
Aluminum	ug/l	200	1660	ND (200)	983	ND (200)	ND (200)	ND (200)
Arsenic	ug/l	3	1.1	27.3	12.5	2	15	30.1
Iron	ug/l	300	1820	23000	6650	586	4450	67000
Manganese	ug/l	50	16.7	259	204	37.1	43.9	425
Sodium	ug/l	50000	51100	163000	56600	ND (10000)	32300	32900

Blue shading indicates exceedance of GWQS

4.6 Groundwater Analytical Results – October 2020

On October 7, 2020, groundwater samples were collected from monitoring wells L1-1 through L1-4, BG-2, and BG-3, and analyzed for select VOCs, SVOCs, metals, and general chemistry parameters in accordance with the NJPDES Permit #NJ0028878. Analytical results from the October 2020 No. 1 Landfarm groundwater sampling event are summarized in **Table 7**.

Targeted VOCs and SVOCs were not detected in the groundwater samples at concentrations above the GWQS in all No. 1 Landfarm monitoring wells. Select metals were detected at concentrations above the GWQS in groundwater samples collected from all monitoring wells, excluding monitoring well L1-4. The following table summarizes the laboratory results.

Client Sample ID:		NJ Groundwater	L1-1	L1-2	L1-3	L1-4	BG-2	BG-3
Lab Sample ID:		Criteria (NJAC	JD14366-3	JD14366-4	JD14366-5	JD14366-6	JD14366-7	JD14366-8
Date Sampled:		7:9C 9/4/18)	10/7/2020	10/7/2020	10/7/2020	10/7/2020	10/7/2020	10/7/2020
Matrix:			Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Metals Analysis								
Aluminum	ug/l	200	4270	ND (200)	212	ND (200)	201	ND (200)
Arsenic	ug/l	3	3	29.3	28.2	ND (3.0)	19.2	12.6
Iron	ug/l	300	6770	19400	24700	230	4970	16400
Lead	ug/l	5	10.7	ND (3.0)				
Manganese	ug/l	50	37	257	596	36	49.2	285
Sodium	ug/l	50000	44000	153000	118000	ND (10000)	49900	40900

ND – Non-detect

Blue shading indicates exceedance of GWQS

4.7 Additional Monitoring – August & December 2020

On August 25, 2020, soil samples were collected from three zones in the No. 1 Landfarm and analyzed for VOCs, SVOCs, metals, and general chemistry parameters. The three zones are defined as follows: the Zone of Incorporation (ZOI) is the interval located 0.5 to 1.0 foot below grade, the Treatment Zone (TZ) is the interval located 1.5-3.0 feet below grade, and the Unsaturated Zone (UZ) is the interval located 3.0 to 4.0 feet below grade.

Targeted VOCs were not detected over the applicable soil standards for all zones that were sampled. Several polyaromatic hydrocarbons (PAHs) were detected over applicable

soil standards for the TZ and UZ samples. Several metals were also detected above applicable soil standards in all zones. Soil sample results are presented on **Table 8**. The following table summarizes the exceedances.

Client Sample ID: Lab Sample ID: Date Sampled:		NJ Residential Direct Contact Soil	NJ Non- Residential Direct Contact Soil	ZOI (0.0-1.5') JD12200-1 8/25/2020	TZ (1.5-3.0') JD12200-2 8/25/2020	VZ (3.0-4.0') JD12200-3 8/25/2020
Matrix:			3011	Soil	Soil	Soil
MS Semi-volatiles (SW846 827	0D)					
Benzo(a)anthracene	mg/kg	5	17	0.119 J	0.281	3.05
Benzo(a)pyrene	mg/kg	0.5	2	0.171 J	0.451	2.51
Dibenzo(a,h)anthracene	mg/kg	0.5	2	ND (0.094)	0.254	0.733
Metals Analysis						
Arsenic	mg/kg	19	19	57.2 °	62.5 ^e	25.8 ^e
Beryllium	mg/kg	16	140	0.33	0.35	1.2
Cadmium	mg/kg	78	78	1.7 ^e	2.1 ^e	0.91
Lead	mg/kg	400	800	148 ^e	170 ^e	114 ^e
Mercury	mg/kg	23	65	1.7	1.7	0.54
Nickel	mg/kg	1600	23000	1550 ^e	1750	348
Selenium	mg/kg	390	5700	14.2	16.6 ^e	<4.7 ^e
Vanadium	mg/kg	78	1100	100 ^e	112 ^e	52.6 ^e

^e Elevated detection limit due to dilution required for high interfering element.

Highlighted concentrations indicate exceedance of soil standard

A leachate sample (L1-Leachate) is collected tri-annually and a sample was collected on December 11, 2020. The L1-Leachate sample is a pre-treatment sample and is analyzed for VOCs, SVOCs, metals, ammonia, and general chemistry.

The L1-Leachate results for December 2020 indicate that nickel was detected at a concentration of 252 ppb, which is above the GWQS of 100 ppb. Leachate sample results are summarized in **Table 8**.

4.8 Conclusions

Arsenic is the main contaminant of concern for the No. 1 Landfarm groundwater. A summary of arsenic concentrations for the last 12 quarterly sampling events is included below.

Arsenic Concentrations

Arsenic concentrations have been generally consistent for the last 12 quarterly groundwater sampling events, except for the January 2018 sampling event. During the January 2018 sampling event, arsenic concentrations detected in the groundwater samples collected from monitoring wells L1-2 and BG-2 were elevated in comparison to previous sampling events. Also, the concentrations detected in the groundwater samples collected from monitoring well BG-3 have fluctuated over the last 12 quarters. The following table summarizes the arsenic exceedances from January 2018 through October 2020.

Well ID	GWQS	1/24/2018	4/26/2018	7/24/2018	10/3/2018	1/16/2019	4/16/2019	7/11/2019	10/23/2019	1/23/2020	4/14/2020	7/15/2020	10/7/2020
L1-2	3	121	31.5	31.2	29.2	19	16.6	22.6	25.4	15.9	19	27.3	29.3
L1-3	3	14.5	14.1	23.2	22.8	6.6	7.5	13.5	21.8	8.7	5.2	12.5	28.2
BG-2	3	43.6	8.7	12.1	12.1	7.5	9.1	15.7	6.1	7	14.3	15	19.2
BG-3	3	50.2	<3.0	12	12	7	2.7	6.4	14	5.6	3.8	30.1	12.6

Blue shading indicates exceedance of GWQS

The required EDDs are presented in **Appendix B**. The electronic laboratory analytical data packages for the samples collected for the No. 1 Landfarm in July and October 2020 are presented in **Appendix C**.

5.0 Summary and Implementation Schedule

The metals testing confirms naturally occurring chemicals have affected the shallow groundwater beneath the three landfarm areas including: Iron, Mangenese, Sodium, Chlorides, Ammonia, and total dissolved solids. Each of these chemicals exceed the NJDEP Class IIA drinking water standards. The groundwater quality standards (NJAC 7:9c) allows the establishment of a Class IIB aquifer designation where "conventional water supply treatment, mixing, or other similar techniques" cannot create a potable water below the applicable groundwater quality standards. Supplemental groundwater monitoring and analytical data will provide a more extensive evaluation of the groundwater characteristics and naturally occurring chemicals beneath the site.

Remedial Action Workplans (RAWs) were submitted for the three landfarms in August/September 2016. The status for each landfarm is as follows:

North Landfarm

- The NJDEP/USEPA provided comments regarding the RAW in June 2018.
- The comments were incorporated into the 90% Soil Remedial Action Design (RAD) and submitted on October 24, 2019.
- The NJDEP and USEPA issued an approval letter for the 90% design on April 28, 2020.
- The current property owner (Buckeye) is in the process of lining the tankfield located directly adjacent to the North Landfarm.
- The 100% RAD will be finalized once the tankfield lining project is complete and as-built drawings are provided to Hess/Earth Systems.

South Landfarm

- The NJDEP/USEPA provided comments regarding the RAW in March 2019.
- Preparation of the Response to Comments (RTC) and the 90% RAD is currently underway and will incorporate the NJDEP/USEPA comments.

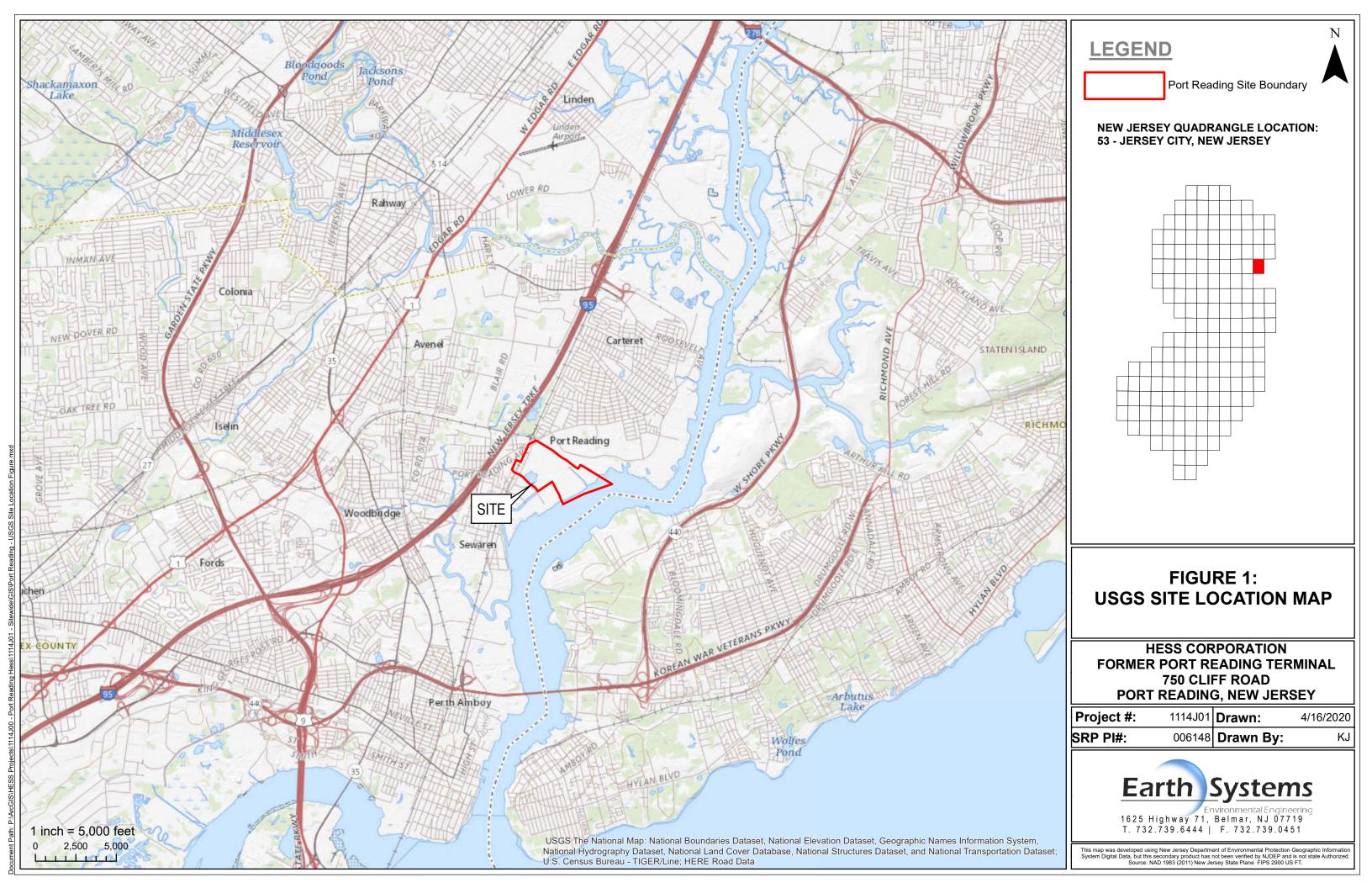
• Landfarm No. 1

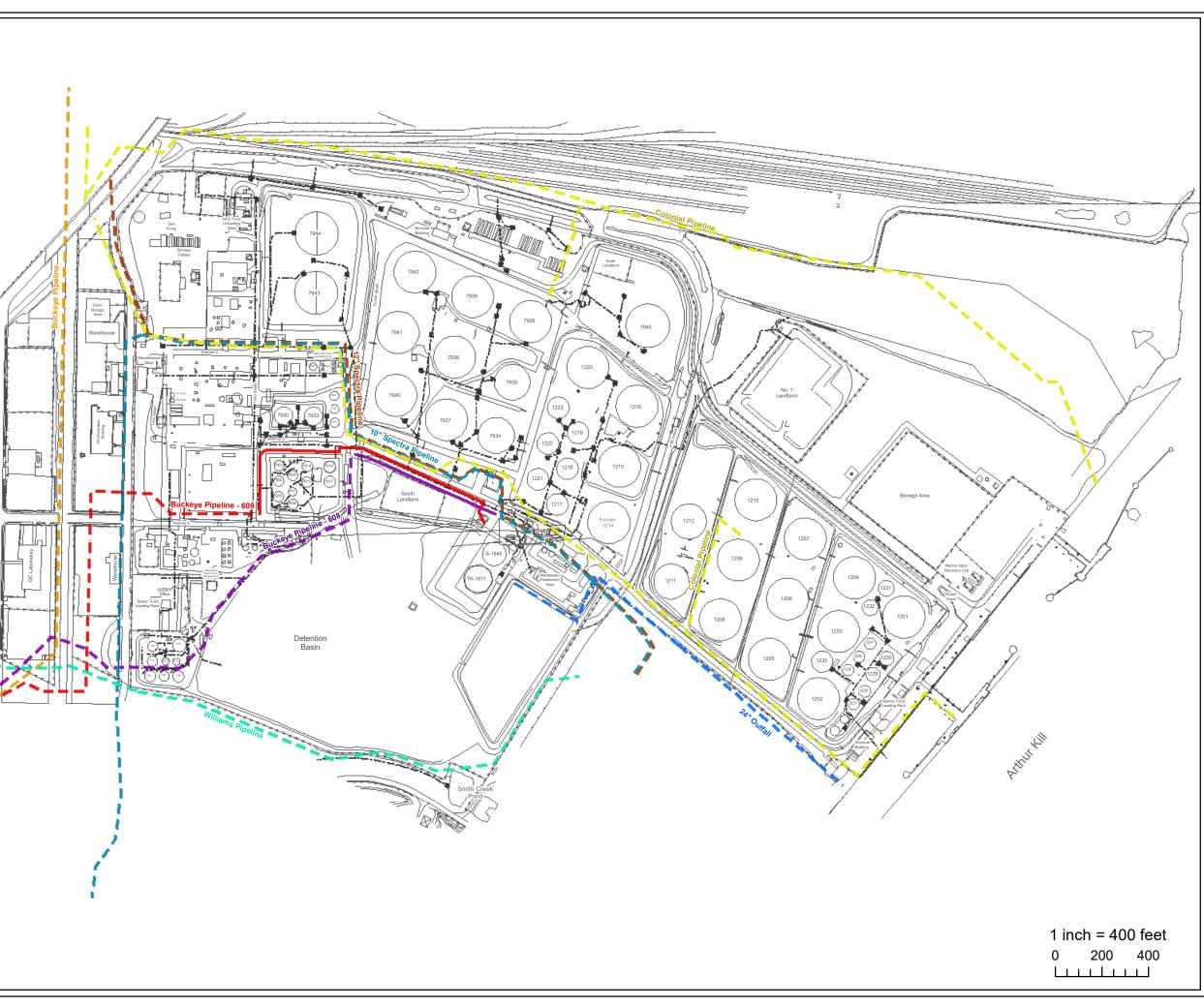
- The 100% Soil RAD for the landfarm engineering control was submitted in May 2019.
- Based on October 2019 NJDEP/USEPA comments, a revised 100% Soil RAD for was submitted on December 17, 2019.
- The NJDEP/USEPA issued an approval letter for the 100% design on April 28, 2020.
- The following permits were submitted in June 2020 and have been approved by the NJDEP on the dates provided:

- Soil Erosion & Sediment Control Plan (Freehold Soil Conservation District), approved on August 17, 2020
- Flood Hazard Area Individual Permit (NJDEP Land Use Regulation Program), approved on September 25, 2020
- Waterfront Development GP-11 Permit (NJDEP Land Use Regulation Program), approved on September 25, 2020
- Freshwater Wetland GP-4 Permit (NJDEP Land Use Regulation Program), approved on September 25, 2020
- NJPDES B4B Permit (NJDEP Wastewater Program), approved on September 15, 2020
- The following permits were submitted in September/October 2020 and are currently being reviewed by the NJDEP.
 - Treatment Works Approval TWA-1 Permit (NJDEP Wastewater Program), deemed administratively complete on 11/23, currently in technical review.
 - NJPDES Individual Permit (NJDEP Stormwater Program), deemed administratively complete on 10/1, currently in technical review.

HC-PR will continue to submit semi-annual Groundwater Monitoring reports that present and discuss the current sampling activities. The Landfarm wells will continue to be sampled on a quarterly basis, pending closure. The next sampling events will be conducted in January and April 2021.

FIGURES





LEGEND



- Utility and Pipe Lines
 Soild Line: Aboveground
 Dotted Line: Underground

FIGURE: 2 **SITE PLAN**

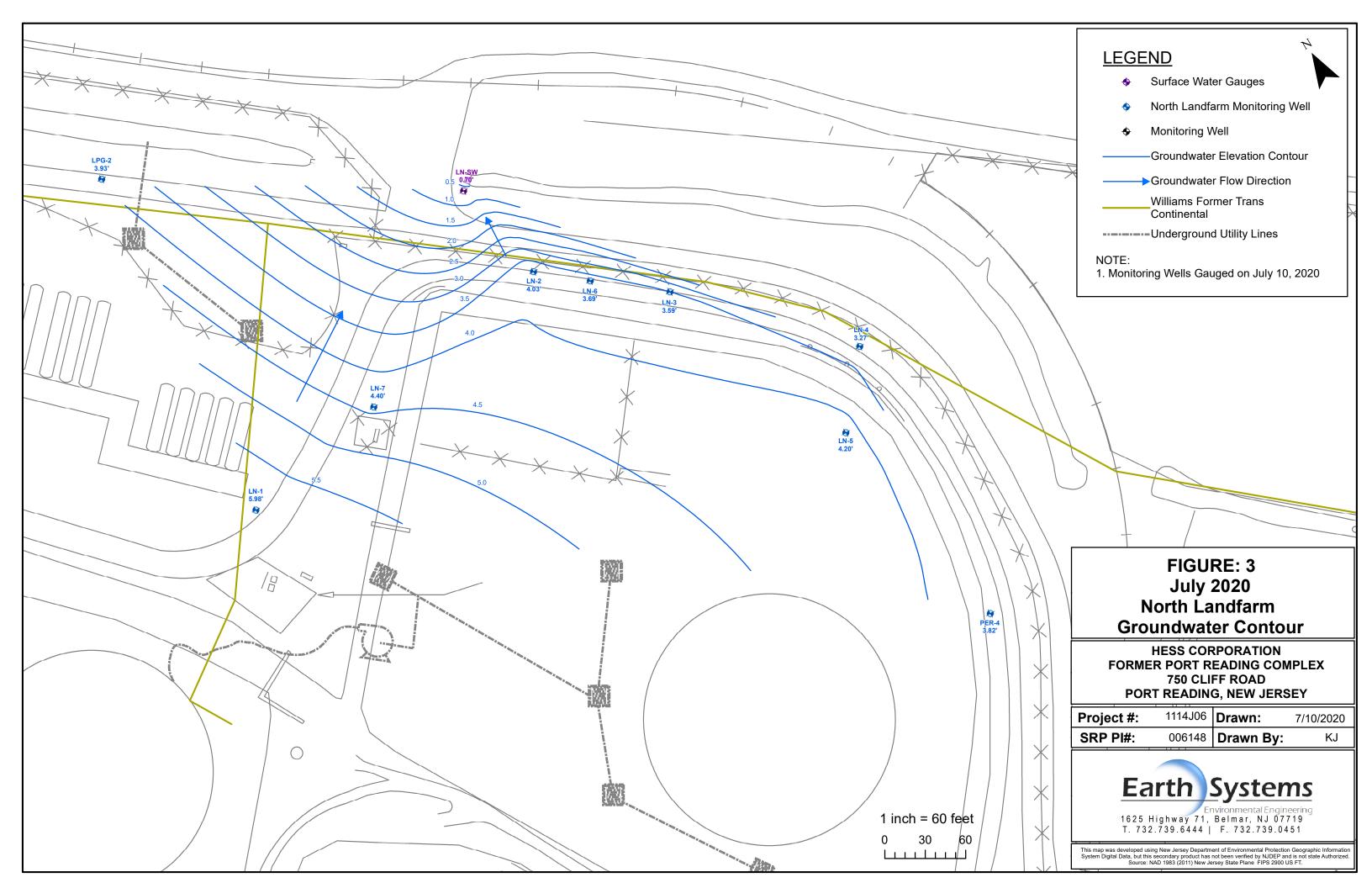
HESS CORPORATION FORMER PORT READING COMPLEX 750 CLIFF ROAD **PORT READING, NEW JERSEY**

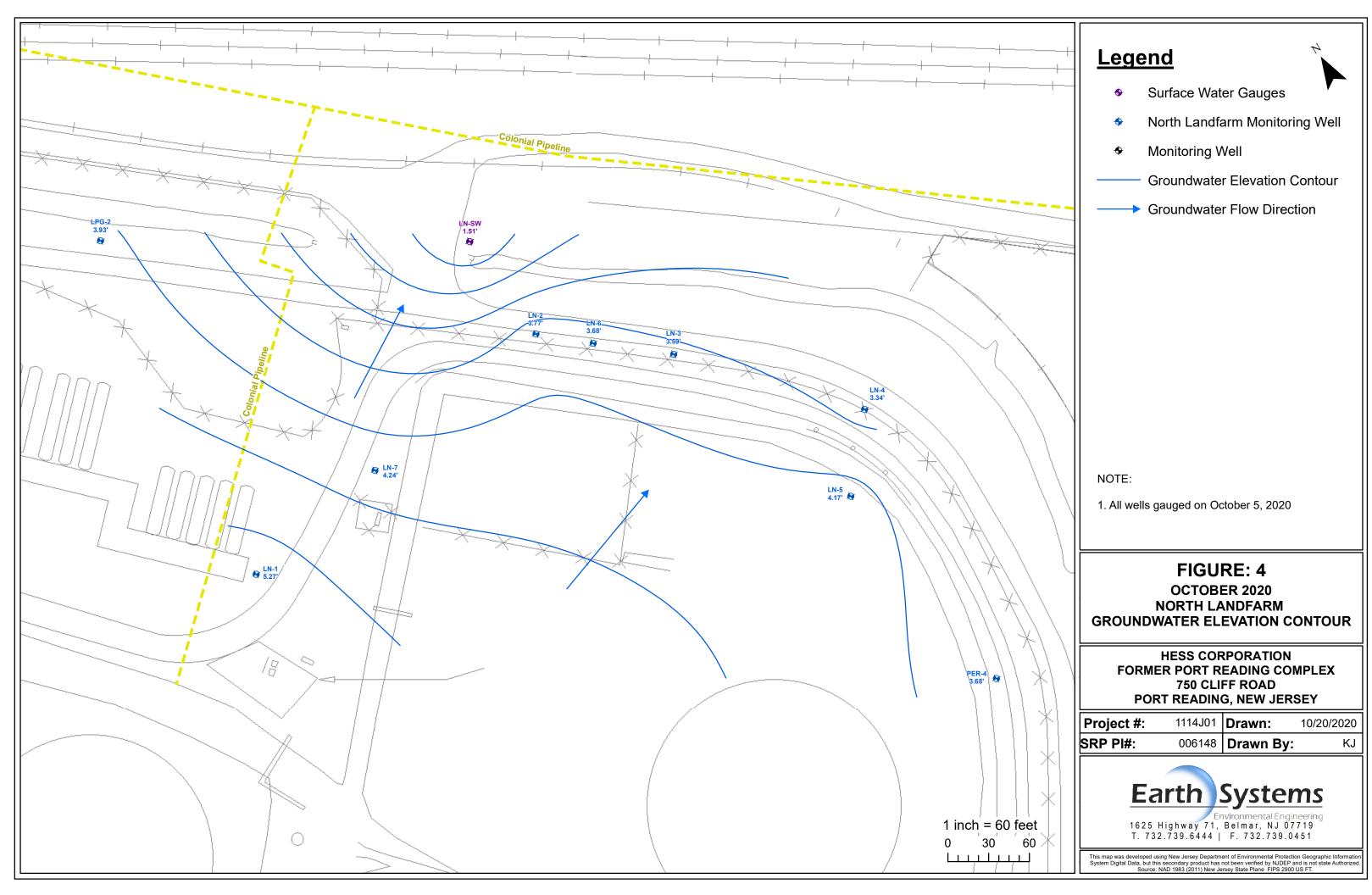
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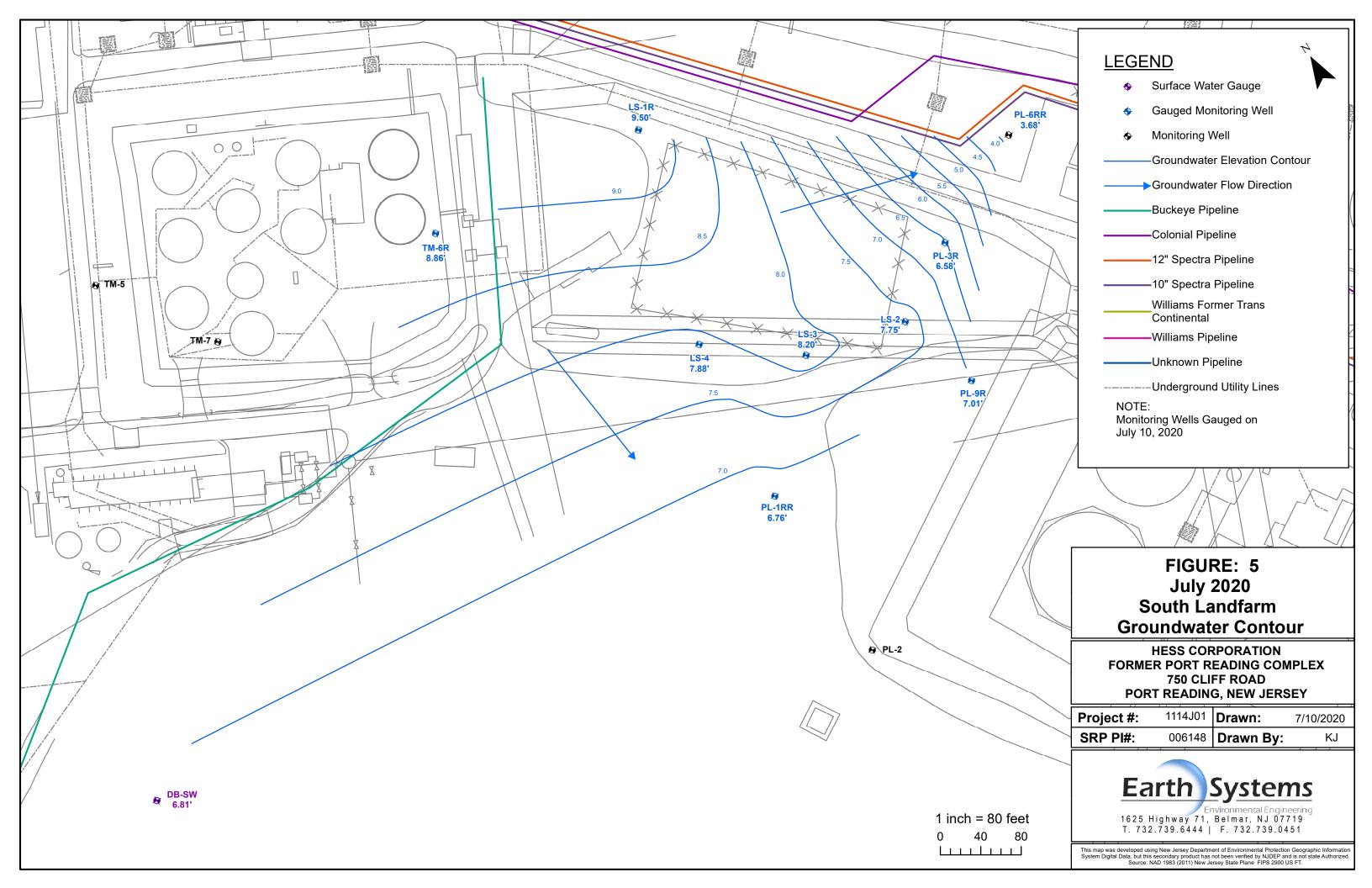


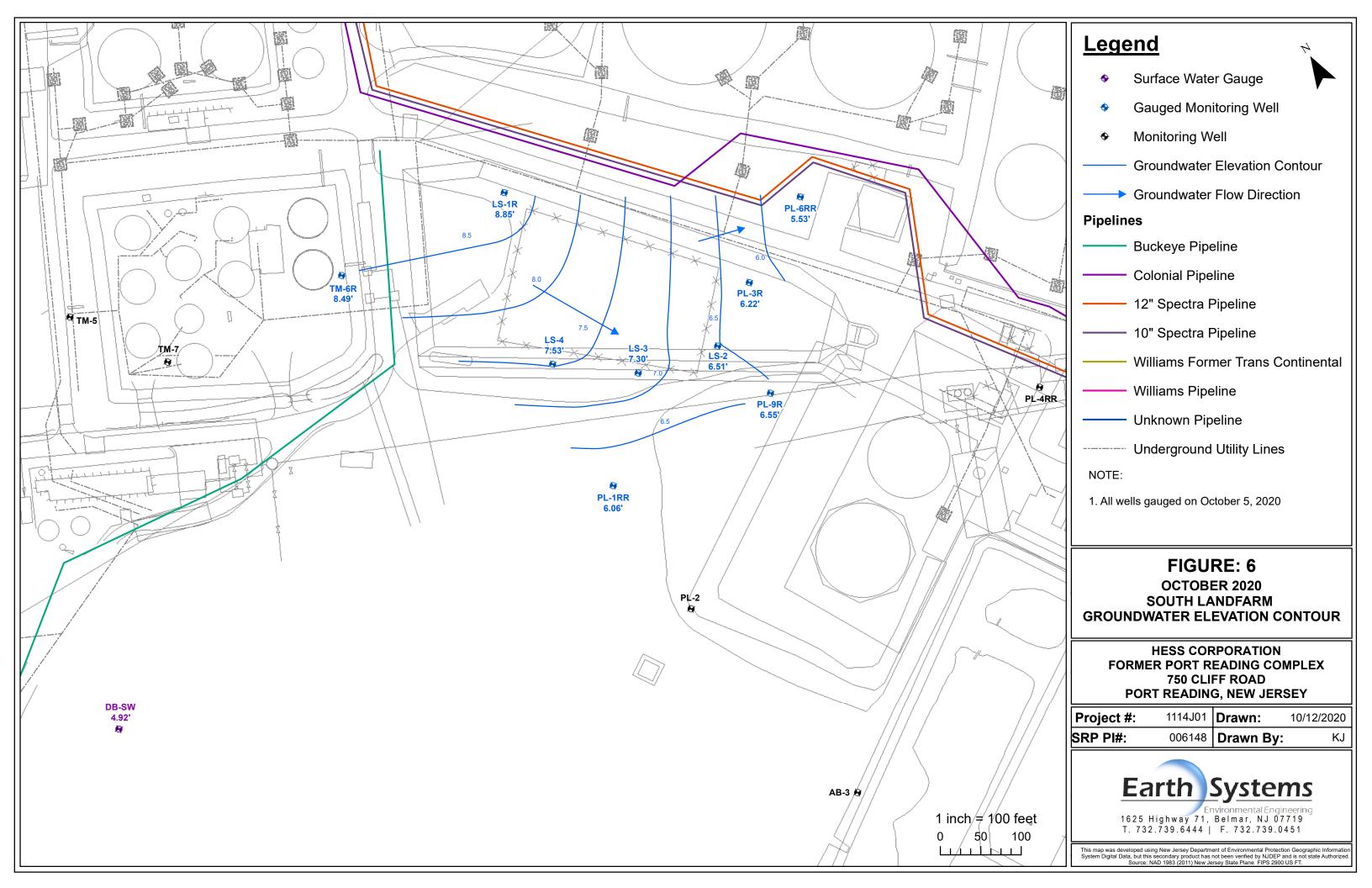
Environmental Engineering 1625 Highway 71, Belmar, NJ 07719 T. 732.739.6444 | F. 732.739.0451

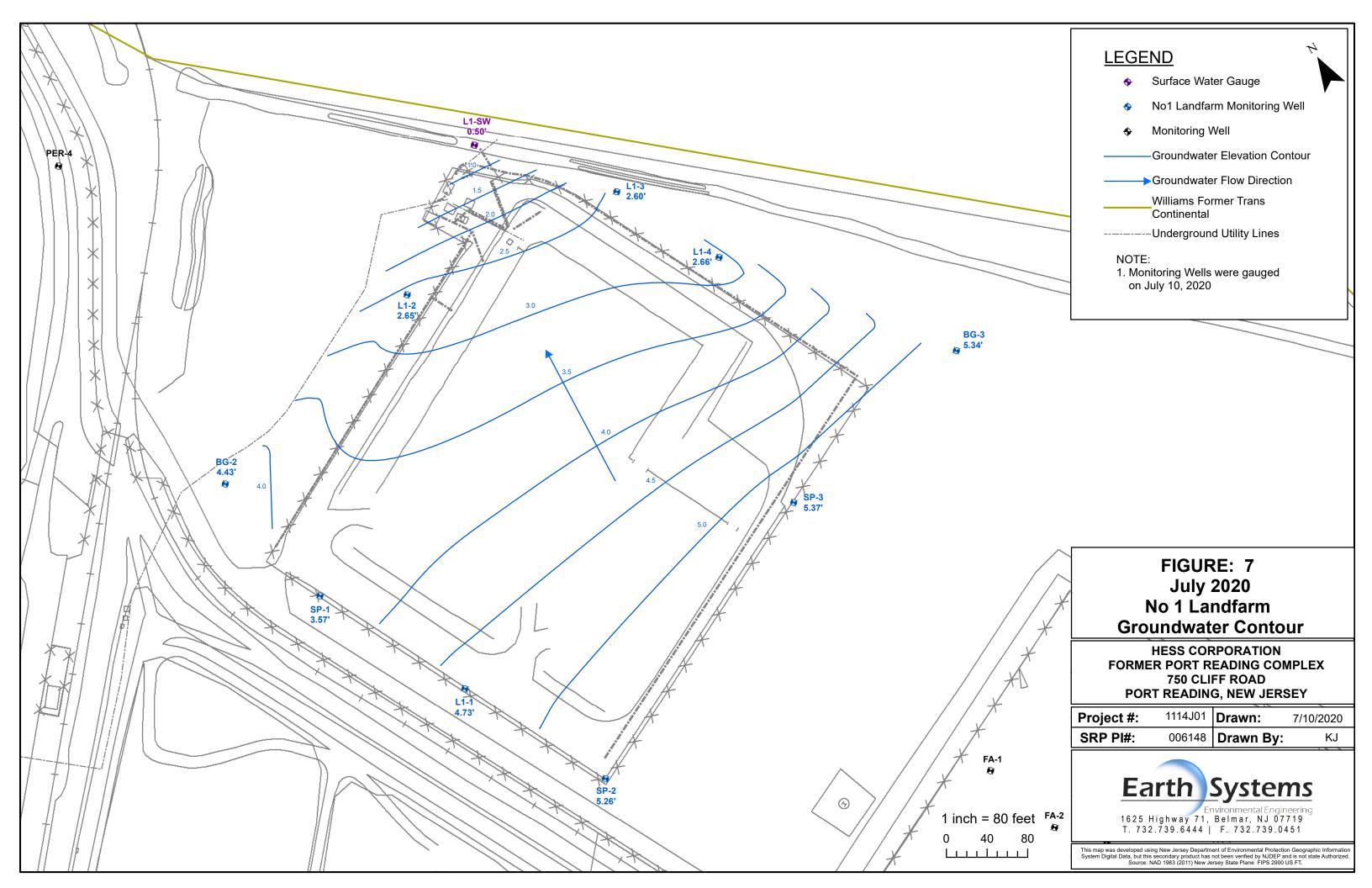
This map was developed using New Jersey Department of Environmental Protection Geographic Informatio System Digital Data, but this secondary product has not been verified by NJDEP and is not state Authorized Source: NAD 1983 (2011) New Jersey State Plane FIPS 2900 US FT.

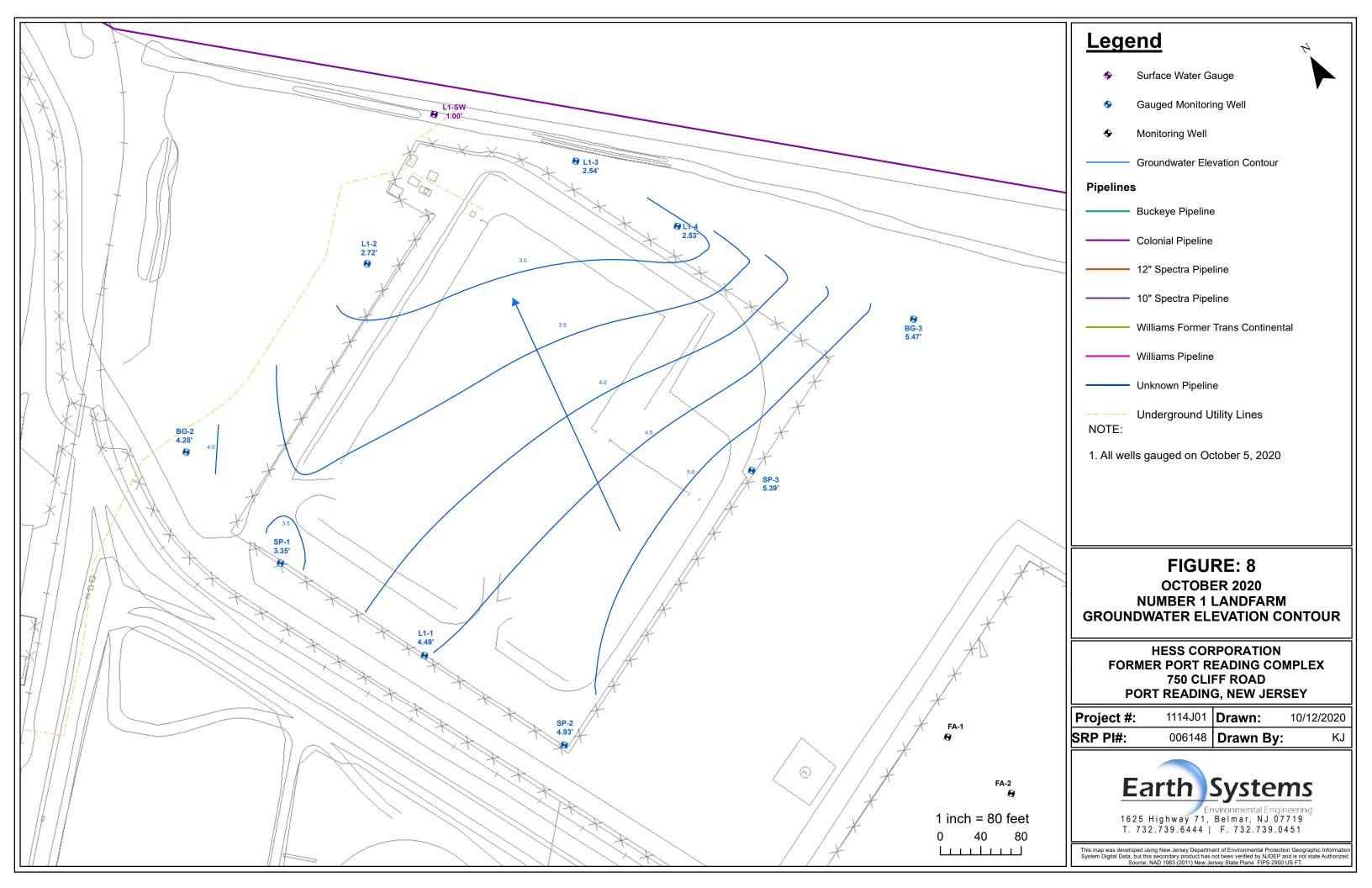












TABLES

Table 1
Quarterly Landfarms Monitoring Well Gauging Data
Hess Corporation - Former Port Reading Complex
750 Cliff Road

Port Reading, Middlesex County, New Jersey

		Groui	ndwater Gauging		•	
Well I.D.	Date	Depth to Water	DTB from TOC	TOC Elevation	Water Elevation	PID
LN-SW	10/5/2020	1.20	NA	-0.31	1.51	NA
LN-1	10/5/2020	5.10	13.85	10.37	5.27	1.0
LN-2	10/5/2020	5.88	11.45	9.65	3.77	0.0
LN-3	10/5/2020	5.33	12.21	8.92	3.59	0.4
LN-4	10/5/2020	7.35	14.30	10.69	3.34	0.0
LN-5	10/5/2020	6.40	17.08	10.57	4.17	0.0
LN-6	10/5/2020	8.47	17.20	12.15	3.68	0.1
LN-7	10/5/2020	9.06	17.16	13.30	4.24	0.4
PER-4	10/5/2020	6.62	15.75	10.30	3.68	0.8
LPG-2	10/5/2020	2.91	9.65	7.05	4.14	0.0
DB-SW	10/5/2020	6.00	NA	-0.11	6.11	NA
LS-1R	10/5/2020	3.40	16.40	12.25	8.85	0.0
LS-2	10/5/2020	3.24	11.95	9.75	6.51	0.0
LS-3	10/5/2020	1.10	13.00	8.40	7.30	26.4
LS-4	10/5/2020	1.75	13.90	9.28	7.53	11.8
TM-6R	10/5/2020	5.77	20.00	14.26	8.49	1500.0
PL-1RR	10/5/2020	1.30	14.75	7.36	6.06	19.8
PL-3R	10/5/2020	3.94	19.20	10.16	6.22	111.3
PL-6RR	10/5/2020	1.35	15.00	6.88	5.53	4.8
PL-9R	10/5/2020	2.56	20.30	9.11	6.55	7.0
L1-SW	10/5/2020	0.80	NA	-0.20	1.00	NA
L1-1	10/5/2020	5.42	13.60	9.91	4.49	0.0
L1-2	10/5/2020	6.33	14.50	9.05	2.72	0.0
L1-3	10/5/2020	6.79	11.30	9.33	2.54	0.0
L1-4	10/5/2020	8.32	11.30	10.85	2.53	0.0
BG-2	10/5/2020	2.68	9.00	6.96	4.28	0.0
BG-3	10/5/2020	4.84	11.00	10.31	5.47	0.0
SP-1	10/5/2020	5.60	11.85	8.95	3.35	0.0
SP-2	10/5/2020	5.25	13.40	10.18	4.93	0.7
SP-3	10/5/2020	3.94	15.00	9.33	5.39	0.0

NM - Not Measured

LNAPL - Light non Aqueous Phase Liquids

NA - Not Applicable

DTB - Depth to Bottom

All Measurements are in feet

TOC - Top of Casing

Table 2 Hess Corporation Former Port Reading Terminal 750 Cliff Road

Port Reading

North Landfarm Groundwater Sampling Analytical Results - July 2020

Client Sample ID:		NJ Groundwater	NJ Interim	LN-1	LN-2	LN-3	LN-4	LN-5	LN-6	LN-7
Lab Sample ID:		Criteria (NJAC	Groundwater	JD10090-3	JD10090-4	JD10090-5	JD10288-3	JD10288-4	JD10090-6	JD10090-7
Date Sampled:		7:9C 9/4/18) ¹	Criteria (NJAC	7/14/2020	7/14/2020	7/14/2020	7/16/2020	7/16/2020	7/14/2020	7/14/2020
Matrix:			7:9C 1/17/19) ²	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
MS Volatiles (SW846 8260C)										
Acetone	ug/l	6000	_	ND (6.0)	ND (6.0)	ND (6.0)	ND (6.0)	ND (6.0)	ND (6.0)	ND (6.0)
Benzene	ug/l	1	-	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)
Bromochloromethane	ug/l	-	-	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)
Bromodichloromethane Bromoform	ug/l ug/l	1 4	-	ND (0.58) ND (0.63)	ND (0.58) ND (0.63)	ND (0.58) ND (0.63)	ND (0.58) ND (0.63)	ND (0.58) ND (0.63)	ND (0.58) ND (0.63)	ND (0.58) ND (0.63)
Bromomethane	ug/l	10	-	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)
2-Butanone (MEK)	ug/l	300		ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9) b	ND (6.9) b	ND (6.9)	ND (6.9)
Carbon disulfide	ug/l	700	_	ND (0.95) ^a	ND (0.95) ^a	ND (0.95) ^a	ND (0.95)	ND (0.95)	ND (0.95) ^a	ND (0.95) ^a
Carbon tetrachloride	ug/l	1	-	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)
Chlorobenzene	ug/l	50	-	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)
Chloroethane	ug/l	- 70	5	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)
Chloroform Chloromethane	ug/l ug/l	70	-	ND (0.50) ND (0.76)	ND (0.50) ND (0.76)	ND (0.50) ND (0.76)	ND (0.50) ND (0.76)	ND (0.50) ND (0.76)	ND (0.50) ND (0.76)	ND (0.50) ND (0.76)
Cyclohexane	ug/l	-	-	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)
1,2-Dibromo-3-chloropropane	ug/l	0.02	-	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)
Dibromochloromethane	ug/l	1	-	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)
1,2-Dibromoethane 1,2-Dichlorobenzene	ug/l ug/l	0.03 600	-	ND (0.48) ND (0.53)	ND (0.48) ND (0.53)	ND (0.48) ND (0.53)	ND (0.48) ND (0.53)	ND (0.48) ND (0.53)	ND (0.48) ND (0.53)	ND (0.48) ND (0.53)
1,3-Dichlorobenzene	ug/l	600	-	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)
1,4-Dichlorobenzene	ug/l	75	-	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
Dichlorodifluoromethane	ug/l	1000	-	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)
1,1-Dichloroethane	ug/l	50	-	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)
1,2-Dichloroethane	ug/l	1		ND (0.60) ND (0.59)	ND (0.60) ND (0.59)	ND (0.60) ND (0.59)	ND (0.60) ND (0.59) ^b	ND (0.60) ND (0.59) ^b	ND (0.60) ND (0.59)	ND (0.60) ND (0.59)
1,1-Dichloroethene cis-1,2-Dichloroethene	ug/l ug/l	70	-	ND (0.59) ND (0.51)	ND (0.59) ND (0.51)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59) ND (0.51)	ND (0.59) ND (0.51)
trans-1,2-Dichloroethene	ug/l	100	-	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)
1,2-Dichloropropane	ug/l	1	-	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
cis-1,3-Dichloropropene	ug/l	-	-	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)
trans-1,3-Dichloropropene	ug/l	- 700	-	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43) ND (0.60)	ND (0.43)	ND (0.43) ND (0.60)
Ethylbenzene Freon 113	ug/l ug/l	700 20000	-	ND (0.60) ND (1.9)	ND (0.60) ND (1.9)	ND (0.60) ND (1.9)	ND (0.60) ND (1.9)	ND (0.60)	ND (0.60) ND (1.9)	ND (0.60)
2-Hexanone	ug/l	40	-	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Isopropylbenzene	ug/l	700	-	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)
Methyl Acetate	ug/l	7000	-	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80) b	ND (0.80) b	ND (0.80)	ND (0.80)
Methylcyclohexane	ug/l	-	-	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)
Methyl Tert Butyl Ether 4-Methyl-2-pentanone(MIBK)	ug/l ug/l	70 -	-	ND (0.51) ND (1.9)	ND (0.51) ND (1.9)	ND (0.51) ND (1.9)	ND (0.51) ND (1.9)	ND (0.51) ND (1.9)	ND (0.51) ND (1.9)	ND (0.51) ND (1.9)
Methylene chloride	ug/l	3	-	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Styrene	ug/l	100	-	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)
Tert Butyl Alcohol	ug/l	100	-	ND (5.8)	ND (5.8)	35.3	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)
1,1,2,2-Tetrachloroethane	ug/l	1	-	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)
Tetrachloroethene Toluene	ug/l	1 600	-	ND (0.90) ND (0.53)	ND (0.90) ND (0.53)	ND (0.90) ND (0.53)	ND (0.90) ND (0.53)	ND (0.90) ND (0.53)	ND (0.90) ND (0.53)	ND (0.90) ND (0.53)
1,2,3-Trichlorobenzene	ug/l ug/l	-	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
1,2,4-Trichlorobenzene	ug/l	9	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
1,1,1-Trichloroethane	ug/l	30	-	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)
1,1,2-Trichloroethane	ug/l	3	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
Trichloroethene Trichlorofluoromethane	ug/l ug/l	1 2000	-	ND (0.53) ND (0.84)	ND (0.53) ND (0.84)	ND (0.53) ND (0.84)	ND (0.53) ND (0.84)	ND (0.53) ND (0.84)	ND (0.53) ND (0.84)	ND (0.53) ND (0.84)
Vinyl chloride	ug/l	1	-	ND (0.84)	ND (0.84)	ND (0.84)	ND (0.84)	ND (0.84)	ND (0.84)	ND (0.64)
m,p-Xylene	ug/l	-	-	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)
o-Xylene	ug/l	-	-	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)
Xylene (total)	ug/l	1000	-	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)
MS Volatile TIC										
Total TIC, Volatile	ug/l	-	-	0	0	0	69.7 J	0	0	0
GC/LC Semi-volatiles (EPA 608	3.3)									
gamma-BHC (Lindane)	ug/l	0.03	_	ND (0.0047)	ND (0.0047)	ND (0.0047)	ND (0.0047)	ND (0.0046)	ND (0.0047)	ND (0.0047)
Endrin	ug/l	2	-	ND (0.0047)	ND (0.0047)	ND (0.0047)	ND (0.0047)	ND (0.0046)	ND (0.0047)	ND (0.0047)
Methoxychlor	ug/l	40	-	ND (0.0060)	ND (0.0060)	ND (0.0060)	ND (0.0060)	ND (0.0058)	ND (0.0060)	ND (0.0060)
Toxaphene	ug/l	2	-	ND (0.079)	ND (0.079)	ND (0.079)	ND (0.079)	ND (0.076)	ND (0.079)	ND (0.079)
GC/LC Semi-volatiles (SW846 8	3151A)									
2,4-D	ug/l	70	-	ND (0.079)	ND (0.079)	ND (0.079)	ND (0.079)	ND (0.079)	ND (0.079)	ND (0.079)
2,4,5-TP (Silvex)	ug/l	60	-	ND (0.048)	ND (0.048)	ND (0.048)	ND (0.048)	ND (0.048)	ND (0.048)	ND (0.048)
2,4,5-T	ug/l	-	-	ND (0.016)	ND (0.016)	ND (0.016)	ND (0.016)	ND (0.016)	ND (0.016)	ND (0.016)
Dalapon	ug/l	200	-	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)
Dicamba	ug/l ug/l	-	-	ND (0.025) ND (0.065)	ND (0.025) ND (0.065)	ND (0.025) ND (0.065)	ND (0.025) ND (0.065)	ND (0.025) ND (0.065)	ND (0.025) ND (0.065)	ND (0.025) ND (0.065)
Dichloroprop			-	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.003)
Dichloroprop Dinoseb	ug/l	7								
	ug/l ug/l	-	-	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)	ND (18)
Dinoseb MCPA MCPP	ug/l ug/l	- 7	-	ND (18) ND (25)	ND (18) ND (25)	ND (18) ND (25)	ND (25)	ND (18) ND (25)	ND (18) ND (25)	ND (25)
Dinoseb MCPA	ug/l	-		ND (18)	ND (18)	ND (18)		ND (18)	ND (18)	

Table 2 Hess Corporation Former Port Reading Terminal 750 Cliff Road

Port Reading

North Landfarm Groundwater Sampling Analytical Results - July 2020

Client Sample ID:		NJ Groundwater	NJ Interim	LN-1	LN-2	LN-3	LN-4	LN-5	LN-6	LN-7
Lab Sample ID:		Criteria (NJAC	Groundwater	JD10090-3	JD10090-4	JD10090-5	JD10288-3	JD10288-4	JD10090-6	JD10090-7
Date Sampled:		7:9C 9/4/18) ¹	Criteria (NJAC	7/14/2020	7/14/2020	7/14/2020	7/16/2020	7/16/2020	7/14/2020	7/14/2020
Matrix:			7:9C 1/17/19) ²	Ground Water	Ground Water	Ground Water				
Metals Analysis										
Arsenic	ug/l	3	-	ND (3.0)	4.6	8.2	16.5	3.9	9.8	5
Barium	ug/l	6000	-	ND (200)	ND (200)	ND (200)	275	ND (200)	ND (200)	ND (200)
Cadmium	ug/l	4	-	ND (3.0)	ND (3.0)	ND (3.0)				
Chromium	ug/l	70	-	ND (10)	ND (10)	ND (10)				
Iron	ug/l	300	-	45100	25000	49600	44100	6010	41300	31300
Lead	ug/l	5	-	ND (3.0)	ND (3.0)	ND (3.0	ND (3.0)	9.9	ND (3.0)	ND (3.0)
Manganese	ug/l	50	-	913	339	837	869	42.8	920	725
Mercury	ug/l	2	-	ND (0.20)	ND (0.20)	ND (0.20)				
Selenium	ug/l	40	-	ND (10)	ND (10)	ND (10)				
Silver	ug/l	40	-	ND (10)	ND (10)	ND (10)				
Sodium	ug/l	50000	-	252000	89600	184000	581000	38100	144000	86800
Chloride	mg/l	250	-	321	158	208	1110	33	234	159
-		250	-	1.5	0.97	0.81	0.77		1.1	
Fluoride Nitrogen, Ammonia	mg/l mg/l	3	-	4.6	2.7	4.9	2.4	ND (0.20) ND (0.20)	3.4	3.5
_ •								. ,		
Nitrogen, Nitrate	mg/l	10	-	<0.11 °	<0.11 °	<0.11 °	<0.11 °	4.6 °	<0.11 °	<0.11 °
Nitrogen, Nitrate + Nitrite	mg/l	10	-	<0.10	<0.10	<0.10	<0.10	4.6	<0.10	<0.10
Nitrogen, Nitrite Phenols	mg/l mg/l	1	-	<0.010 <0.20	<0.010 <0.20	<0.010 <0.20	<0.010 <0.20	<0.010 <0.20	<0.010 <0.20	<0.010 <0.20
Solids, Total Dissolved		500	-	830	374	590	1940	256	622	446
·	mg/l	500		1510	767	1240	3720	297	1180	808
Specific Conductivity Sulfate	umhos/cm	250	-			-		-		25.5
	mg/l		-	38.8	<2.0	<2.0	67.1	50.1	44.7	
Total Organic Carbon	mg/l	-	-	9.9	3.7	18.1	4.7	4.5	6.2	6.6
Total Organic Halides	mg/l	-	-	0.11	0.11	0.07	0.13	<0.050	0.11	0.052
Footnotes:										
Associated CCV outside of c	ontrol limits low									
b Associated CCV outside of c		n, sample was ND								
^c Calculated as: (Nitrogen, Nitr										
	(gori, rinino)								

Table 3

Hess Corporation Former Port Reading Terminal 750 Cliff Road, Port Reading, New Jersey

North Landfarm Groundwater Sampling Analytical Results - October 2020

Client Sample ID: Lab Sample ID:		NJ Groundwater Criteria (NJAC	LN-1 JD14256-1	LN-2 JD14256-2	LN-3 JD14256-3	LN-4 JD14256-4	LN-6 JD14256-5	LN-7 JD14256-6	LN-5 JD14256-7
Date Sampled:		7:9C 9/4/18) ¹	10/6/2020	10/6/2020	10/6/2020	10/6/2020	10/6/2020	10/6/2020	10/6/2020
Matrix:			Ground Water						
MS Volatiles (SW846 8260D)									
Acetone	ug/l	6000	ND (6.0) ^a						
Benzene	ug/l	1	ND (0.43)						
Bromochloromethane	ug/l	-	ND (0.48)						
Bromodichloromethane	ug/l	1	ND (0.45)						
Bromoform	ug/l	4	ND (0.63)						
Bromomethane	ug/l	10	ND (1.6)						
2-Butanone (MEK)	ug/l	300	ND (6.9)						
Carbon disulfide	ug/l	700	ND (0.46)						
Carbon tetrachloride	ug/l	1	ND (0.55)	ND (0.55)	ND (0.55) ND (0.56)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)
Chlorobenzene Chloroethane	ug/l ug/l	50 5	ND (0.56) ND (0.73)						
Chloroform	ug/l	70	ND (0.73)						
Chloromethane	ug/l	-	ND (0.76)						
Cyclohexane	ug/l	-	ND (0.78)						
1,2-Dibromo-3-chloropropane	ug/l	0.02	ND (1.2)						
Dibromochloromethane	ug/l	1	ND (0.56)						
1,2-Dibromoethane	ug/l	0.03	ND (0.48)						
1,2-Dichlorobenzene	ug/l	600	ND (0.53)						
1,3-Dichlorobenzene	ug/l	600	ND (0.54)						
1,4-Dichlorobenzene	ug/l	75	ND (0.51)						
Dichlorodifluoromethane	ug/l	1000	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4) ND (0.57)	ND (1.4)	ND (1.4)	ND (1.4) ND (0.57)
1,1-Dichloroethane 1,2-Dichloroethane	ug/l ug/l	50	ND (0.57) ND (0.60)						
1.1-Dichloroethene	ug/l	1	ND (0.59)						
cis-1.2-Dichloroethene	ug/l	70	ND (0.53)	ND (0.51)	ND (0.51)	ND (0.53)	ND (0.51)	ND (0.51)	ND (0.51)
trans-1,2-Dichloroethene	ug/l	100	ND (0.54)						
1,2-Dichloropropane	ug/l	1	ND (0.51)						
cis-1,3-Dichloropropene	ug/l	-	ND (0.47)						
trans-1,3-Dichloropropene	ug/l	-	ND (0.43)						
Ethylbenzene	ug/l	700	ND (0.60)						
Freon 113	ug/l	20000	ND (1.9)						
2-Hexanone	ug/l	40	ND (2.0)						
Isopropylbenzene	ug/l	700	ND (0.65)						
Methyl Acetate	ug/l	7000	ND (0.80)						
Methylcyclohexane Methyl Tert Butyl Ether	ug/l ug/l	- 70	ND (0.60) ND (0.51)						
4-Methyl-2-pentanone(MIBK)	ug/l	-	ND (0.31)	ND (0.51)	ND (0.51)	ND (1.9)	ND (1.9)	ND (0.31)	ND (1.9)
Methylene chloride	ug/l	3	ND (1.0)	ND (1.9)					
Styrene	ug/l	100	ND (0.49)						
Tert Butyl Alcohol	ug/l	100	ND (5.8)	ND (5.8)	6.1 J	ND (5.8)	5.9 J	12.3	ND (5.8)
1,1,2,2-Tetrachloroethane	ug/l	1	ND (0.65)						
Tetrachloroethene	ug/l	1	ND (0.90)						
Toluene	ug/l	600	ND (0.53)						
1,2,3-Trichlorobenzene	ug/l	-	ND (0.50) ^b	ND (0.50) b	ND (0.50) b	ND (0.50) ^b	ND (0.50) b	ND (0.50) b	ND (0.50) b
1,2,4-Trichlorobenzene	ug/l	9	ND (0.50) b						
1,1,1-Trichloroethane	ug/l	30	ND (0.54)						
1,1,2-Trichloroethane	ug/l	3	ND (0.53)						
Trichloroethene	ug/l	1	ND (0.53)						
Trichlorofluoromethane	ug/l	2000	ND (0.40)						
Vinyl chloride	ug/l	1	ND (0.79)						
m,p-Xylene	ug/l	-	ND (0.78)						
o-Xylene Xylene (total)	ug/l ug/l	1000	ND (0.59) ND (0.59)						
	Jug/i	1000	ND (0.59)						
MS Volatile TIC Total TIC, Volatile	ug/l	-	0	0	0	43 J	0	0	0
GC/LC Semi-volatiles (EPA 60)			1 0	ı	ı	1 400	ı		U U
,	,		L.15 (0.11)	L 115 (0		Lung	Lung		
gamma-BHC (Lindane)	ug/l	0.03	ND (0.0047)						
:	ug/l	2	ND (0.0047)						
Endrin					ND (0.0000)	NID (0.0000)	NID (0 0000)	NID (0 0000)	
Endrin Methoxychlor Toxaphene	ug/l ug/l	40	ND (0.0060) ND (0.079)						

Table 3

Hess Corporation Former Port Reading Terminal 750 Cliff Road, Port Reading, New Jersey

North Landfarm Groundwater Sampling Analytical Results

Client Sample ID:		NJ Groundwater	LN-1	LN-2	LN-3	LN-4	LN-6	LN-7	LN-5
Lab Sample ID:		Criteria (NJAC	JD14256-1	JD14256-2	JD14256-3	JD14256-4	JD14256-5	JD14256-6	JD14256-7
Date Sampled:		7:9C 9/4/18)	10/6/2020	10/6/2020	10/6/2020	10/6/2020	10/6/2020	10/6/2020	10/6/2020
Matrix:			Ground Water						
GC/LC Semi-volatiles (SW84	6 8151A)								
2,4-D	ug/l	70	ND (0.066)						
2,4,5-TP (Silvex)	ug/l	60	ND (0.042)						
2,4,5-T	ug/l	-	ND (0.013)						
Dalapon	ug/l	200	ND (0.021)						
Dicamba	ug/l	-	ND (0.021)						
Dichloroprop	ug/l	-	ND (0.057)						
Dinoseb	ug/l	7	ND (0.11)						
MCPA	ug/l	-	ND (15)						
MCPP	ug/l	7	ND (22)						
Pentachlorophenol	ug/l	0.3	0.0087 J	0.0078 J	ND (0.0048)	0.011 J	ND (0.0048)	ND (0.0048)	0.013 J
2,4-DB	ug/l	-	ND (0.097)						
Metals Analysis									
Metals Allalysis									
Arsenic	ug/l	3	5	4.9	11.2	16.6	11.4	7.8	ND (3.0)
Barium	ug/l	6000	ND (200)	ND (200)	ND (200)	557	ND (200)	ND (200)	ND (200)
Cadmium	ug/l	4	ND (3.0)						
Chromium	ug/l	70	ND (10)						
Iron	ug/l	300	39900	24900	41600	29600	40900	31300	2000
Lead	ug/l	5	4.6	ND (3.0)	3.6				
Manganese	ug/l	50	764	354	697	609	867	892	25.3
Mercury	ug/l	2	ND (0.20)						
Selenium	ug/l	40	ND (10)						
Silver	ug/l	40	ND (10)						
Sodium	ug/l	50000	177000	103000	175000	508000	146000	173000	46300
O									
General Chemistry									
Chloride	mg/l	250	281	190	208	880	258	278	33.6
Fluoride	mg/l	2	1.5	1.1	0.89	0.83	1.3	1.3	ND (0.20)
Nitrogen, Ammonia	mg/l	3	4.5	2.7	4.8	2.2	4.1	3.2	ND (0.20)
Nitrogen, Nitrate	mg/l	10	ND (0.11) °	ND (0.11) °	ND (0.11) °	ND (0.11) °	0.11 °	ND (0.11) °	2.2 °
Nitrogen, Nitrate + Nitrite	mg/l	10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.11	ND (0.10)	2.2
Nitrogen, Nitrite	mg/l	1	ND (0.010)						
Phenols	mg/l	-	ND (0.20)						
Solids, Total Dissolved	mg/l	500	ND (10)	80	80	760	10	110	80
-	umhos		` ′						
Specific Conductivity	/cm	-	1320	895	1250	3080	1170	1310	345
Sulfate	mg/l	250	13	ND (2.0)	ND (2.0)	2.2	30.9	4.1	80
Total Organic Carbon	mg/l	-	10.2	3.9	15	5.2	6.7	6	3.9
Total Organic Halides	mg/l	-	ND (0.20)						
-			, ,	` ′	` '	, ,	` ′	` ′	` ′

- Footnotes:
 a Associated CCV outside of control limits low.
 b Associated CCV outside of control limits high, sample was ND.
 c Calculated as: (Nitrogen, Nitrate + Nitrite) (Nitrogen, Nitrite)

Table 4

Hess Corporation Former Port Reading Terminal 750 Cliff Road

Port Reading

South Landfarm Groundwater Sampling Analytical Results

Client Sample ID:		NJ Groundwater	NJ Interim	LS-1R	LS-2	LS-3	LS-4
Lab Sample ID:		Criteria (NJAC	Groundwater	JD10277-3	JD10277-4	JD10277-5	JD10277-6
Date Sampled:		7:9C 9/4/18) ¹	Criteria (NJAC	7/16/2020	7/16/2020	7/16/2020	7/16/2020
Matrix:			7:9C 1/17/19) ²	Ground Water	Ground Water	Ground Water	Ground Water
MS Volatiles (SW846 8260C)							
Acetone	ug/l	6000	_	ND (6.0)	ND (6.0)	6.7 J	14.9
Benzene	ug/l	1	-	ND (0.43)	0.52	10	5.3
Bromochloromethane	ug/l	-	-	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)
Bromodichloromethane	ug/l	1	-	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)
Bromoform	ug/l	4	-	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)
Bromomethane	ug/l	10	-	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)
2-Butanone (MEK)	ug/l	300	-	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)
Carbon disulfide	ug/l	700	-	ND (0.95)	ND (0.95)	ND (0.95)	ND (0.95)
Carbon tetrachloride	ug/l	1	-	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)
Chlorobenzene	ug/l	50	- 5	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)
Chloroethane Chloroform	ug/l	70	- 5	ND (0.73) ND (0.50)	ND (0.73) ND (0.50)	ND (0.73) ND (0.50)	ND (0.73) ND (0.50)
Chloromethane	ug/l ug/l	-	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Cyclohexane	ug/l	-	-	ND (0.78)	3.6 J	3.5 J	0.95 J
1,2-Dibromo-3-chloropropane	ug/l	0.02	-	ND (0.78)	ND (1.2)	ND (1.2)	ND (1.2)
Dibromochloromethane	ug/l	1	-	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)
1,2-Dibromoethane	ug/l	0.03	-	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)
1,2-Dichlorobenzene	ug/l	600	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
1,3-Dichlorobenzene	ug/l	600	-	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)
1,4-Dichlorobenzene	ug/l	75	-	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
Dichlorodifluoromethane	ug/l	1000	-	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)
1,1-Dichloroethane	ug/l	50	-	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)
1,2-Dichloroethane	ug/l	2	-	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)
1,1-Dichloroethene	ug/l	1	-	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)
cis-1,2-Dichloroethene	ug/l	70	-	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
trans-1,2-Dichloroethene	ug/l	100	-	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)
1,2-Dichloropropane cis-1,3-Dichloropropene	ug/l	1 -	-	ND (0.51) ND (0.47)	ND (0.51) ND (0.47)	ND (0.51) ND (0.47)	ND (0.51) ND (0.47)
trans-1,3-Dichloropropene	ug/l ug/l	-	-	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)
Ethylbenzene	ug/l	700	-	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)
Freon 113	ug/l	20000	-	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
2-Hexanone	ug/l	40	-	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
Isopropylbenzene	ug/l	700	-	ND (0.65)	1.2	1.8	1.9
Methyl Acetate	ug/l	7000	-	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)
Methylcyclohexane	ug/l	-	-	ND (0.60)	2.4 J	2.5 J	ND (0.60)
Methyl Tert Butyl Ether	ug/l	70	-	1.4	ND (0.51)	ND (0.51)	ND (0.51)
4-Methyl-2-pentanone(MIBK)	ug/l	-	-	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Methylene chloride	ug/l	3	-	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Styrene	ug/l	100	-	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)
Tert Butyl Alcohol	ug/l	100	-	ND (5.8)	ND (5.8)	977	32.5
1,1,2,2-Tetrachloroethane	ug/l	1	-	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)
Tetrachloroethene	ug/l	1	-	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)
Toluene	ug/l	600	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene	ug/l	- 9	-	ND (0.50) ND (0.50)	ND (0.50) ND (0.50)	ND (0.50) ND (0.50)	ND (0.50) ND (0.50)
1,1,1-Trichloroethane	ug/l ug/l	30	-	ND (0.50)	ND (0.54)	ND (0.50)	ND (0.50) ND (0.54)
1.1.2-Trichloroethane	ug/l	3	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
Trichloroethene	ug/l	1	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
Trichlorofluoromethane	ug/l	2000	-	ND (0.84)	ND (0.84)	ND (0.84)	ND (0.84)
Vinyl chloride	ug/l	1	-	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)
m,p-Xylene	ug/l	-	-	ND (0.78)	ND (0.78)	1.3	0.95 J
o-Xylene	ug/l	-	-	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)
Xylene (total)	ug/l	1000	-	ND (0.59)	ND (0.59)	1.3	0.95 J
MS Volatile TIC							
Total TIC, Volatile	ug/l	-	-	0	6.8 J	164.9 J	22.1 J

Table 4 Hess Corporation Former Port Reading Terminal 750 Cliff Road Port Reading

South Landfarm Groundwater Sampling Analytical Results

Client Sample ID:		NJ Groundwater	NJ Interim	LS-1R	LS-2	LS-3	LS-4
Lab Sample ID:		Criteria (NJAC	Groundwater	JD10277-3	JD10277-4	JD10277-5	JD10277-6
Date Sampled:		7:9C 9/4/18) ¹	Criteria (NJAC	7/16/2020	7/16/2020	7/16/2020	7/16/2020
Matrix:			7:9C 1/17/19) ²	Ground Water	Ground Water	Ground Water	Ground Water
Metals Analysis							
Arsenic	ug/l	3	-	19.4	59.7	12.6	29.2
Barium	ug/l	6000	-	ND (200)	716	582	<200
Cadmium	ug/l	4	-	ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)
Chromium	ug/l	70	-	ND (10)	ND (10)	ND (10)	ND (10)
Lead	ug/l	5	-	ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)
Mercury	ug/l	2	-	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Selenium	ug/l	40	-	ND (10)	ND (10)	ND (10)	ND (10)
Silver	ug/l	40	-	ND (10)	ND (10)	ND (10)	ND (10)
General Chemistry							
	1 0	050000	T	77500	22222	0400000	10.1000
Chloride	ug/l	250000	-	77500	283000	3130000	434000
Fluoride	ug/l	2000	-	810	<200	380	530
Nitrogen, Ammonia	ug/l	3000	-	1800	1700	11600	24200
Nitrogen, Nitrate	ug/l	10000	-	ND (110) ^a	ND (110) ^a	ND (110) ^a	ND (110) ^a
Nitrogen, Nitrate + Nitrite	ug/l	10000	-	ND (100)	ND (100)	ND (100)	ND (100)
Nitrogen, Nitrite	ug/l	1000	-	ND (10)	ND (10)	ND (10)	ND (10)
PhenoIs	ug/l	-	-	ND (200)	ND (200)	ND (200)	ND (200)
Solids, Total Dissolved	ug/l	500000	-	390000	778000	6490000	882000
Specific Conductivity	umhos/cm	-	-	644	1390	8950	1800
Sulfate	ug/l	250000	-	ND (2000)	ND (2000)	ND (2000)	ND (2000)
Total Organic Carbon	ug/l	-	-	11600	12900	57900	26500
Total Organic Halides	ug/l	-	-	ND (50)	110	620 ^b	ND (50)

Footnotes:

^a Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

^b Second column analysis indicates possible matrix interference and or possible high bias.

Hess Corporation Former Port Reading Terminal 750 Cliff Road, Port Reading, New Jersey

South Landfarm Groundwater Sampling Analytical Results - October 2020

Client Sample ID: Lab Sample ID:		NJ Groundwater Criteria (NJAC	LS-1R JD14484-3	LS-2 JD14484-4	LS-3 JD14484-5	LS-4 JD14484-6
Date Sampled:		7:9C 9/4/18)	10/8/2020	10/8/2020	10/8/2020	10/8/2020
Matrix:			Ground Water	Ground Water	Ground Water	Ground Water
MS Volatiles (SW846 8260D)						
Acetone	ug/l	6000	ND (6.0)	ND (6.0)	12.6	19.8
Benzene	ug/l	1	ND (0.43)	ND (0.43)	3.9	3.5
Bromochloromethane	ug/l	- 1	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)
Bromodichloromethane Bromoform	ug/l ug/l	4	ND (0.45) ND (0.63)	ND (0.45) ND (0.63)	ND (0.45) ND (0.63)	ND (0.45) ND (0.63)
Bromomethane	ug/l	10	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)
2-Butanone (MEK)	ug/l	300	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)
Carbon disulfide	ug/l	700	ND (0.46) ^a	ND (0.46) ^a	ND (0.46) a	ND (0.46) ^a
Carbon tetrachloride	ug/l	1	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)
Chlorobenzene	ug/l	50	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)
Chloroethane Chloroform	ug/l ug/l	5 70	ND (0.73) ND (0.50)	ND (0.73) ND (0.50)	ND (0.73) ND (0.50)	ND (0.73) ND (0.50)
Chloromethane	ug/l	-	ND (0.76)	ND (0.76)	ND (0.76)	ND (0.30)
Cyclohexane	ug/l	-	ND (0.78)	2.8 J	3.8 J	1.3 J
1,2-Dibromo-3-chloropropane	ug/l	0.02	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)
Dibromochloromethane	ug/l	1	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)
1,2-Dibromoethane	ug/l	0.03	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)
1,2-Dichlorobenzene	ug/l	600	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
1,3-Dichlorobenzene 1,4-Dichlorobenzene	ug/l ug/l	600 75	ND (0.54) ND (0.51)	ND (0.54) ND (0.51)	ND (0.54) ND (0.51)	ND (0.54) ND (0.51)
Dichlorodifluoromethane	ug/l	1000	ND (0.51)	ND (0.31)	ND (0.51)	ND (0.51)
1,1-Dichloroethane	ug/l	50	ND (0.57)	ND (0.57)	ND (1.4)	ND (1.4)
1,2-Dichloroethane	ug/l	2	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)
1,1-Dichloroethene	ug/l	1	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)
cis-1,2-Dichloroethene	ug/l	70	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
rans-1,2-Dichloroethene	ug/l	100	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)
1,2-Dichloropropane cis-1,3-Dichloropropene	ug/l ug/l	<u> </u>	ND (0.51) ND (0.47)	ND (0.51) ND (0.47)	ND (0.51) ND (0.47)	ND (0.51) ND (0.47)
rans-1,3-Dichloropropene	ug/l	-	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)
Ethylbenzene	ug/l	700	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)
Freon 113	ug/l	20000	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
2-Hexanone	ug/l	40	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)
sopropylbenzene	ug/l	700	ND (0.65)	0.71 J	2.1	1.2
Methyl Acetate Methylcyclohexane	ug/l ug/l	7000	ND (0.80) ND (0.60)	ND (0.80) 1.9 J	ND (0.80) 3.2 J	ND (0.80) ND (0.60)
Methyl Tert Butyl Ether	ug/l	70	1.6	ND (0.51)	ND (0.51)	ND (0.50)
4-Methyl-2-pentanone(MIBK)	ug/l	-	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)
Methylene chloride	ug/l	3	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Styrene	ug/l	100	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.49)
Tert Butyl Alcohol	ug/l	100	ND (5.8)	6.1 J	1070	82.9
1,1,2,2-Tetrachloroethane Tetrachloroethene	ug/l	1	ND (0.65) ND (0.90)	ND (0.65) ND (0.90)	ND (0.65) ND (0.90)	ND (0.65) ND (0.90)
Toluene	ug/l ug/l	600	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
1,2,3-Trichlorobenzene	ug/l	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
1,2,4-Trichlorobenzene	ug/l	9	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
1,1,1-Trichloroethane	ug/l	30	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)
1,1,2-Trichloroethane	ug/l	3	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
Trichloroethene	ug/l	2000	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)
Trichlorofluoromethane Vinyl chloride	ug/l ug/l	2000	ND (0.40) ND (0.79)	ND (0.40) ND (0.79)	ND (0.40) ND (0.79)	ND (0.40) ND (0.79)
n,p-Xylene	ug/l	-	ND (0.78)	ND (0.78)	1.1	1.5
o-Xylene	ug/l	-	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)
Xylene (total)	ug/l	1000	ND (0.59)	ND (0.59)	1.1	1.5
110 V I III TIO						
MS Volatile TIC						
	lug/I	-	0	0	102.7 J	44.1 J
Total TIC, Volatile	ug/l	-	0	0	102.7 J	44.1 J
Total TIC, Volatile						
Total TIC, Volatile Metals Analysis Arsenic	ug/l	3	11.9	43.6	12.7	24.2
Total TIC, Volatile Metals Analysis Arsenic Barium	ug/l ug/l	3 6000	11.9 ND (200)	43.6 824	12.7 597	24.2 ND (200)
Total TIC, Volatile Metals Analysis Arsenic Barium Cadmium	ug/l ug/l ug/l	3 6000 4	11.9 ND (200) ND (3.0)	43.6 824 ND (3.0)	12.7 597 ND (3.0)	24.2 ND (200) ND (3.0)
Total TIC, Volatile Metals Analysis Arsenic Barium Cadmium Chromlum	ug/l ug/l	3 6000	11.9 ND (200)	43.6 824	12.7 597	24.2 ND (200)
Total TIC, Volatile Metals Analysis Metals Analysis Barium Cadmium Chromium ron Lead	ug/l ug/l ug/l ug/l	3 6000 4 70 300 5	ND (200) ND (3.0) ND (10) 11400 ND (3.0)	43.6 824 ND (3.0) ND (10) 2580 ND (3.0)	12.7 597 ND (3.0) ND (10) 84000 ND (3.0)	24.2 ND (200) ND (3.0) ND (10) 6740 ND (3.0)
Total TIC, Volatile Metals Analysis Arsenic Barium Cadmium Thornmium ron Lead	ug/l ug/l ug/l ug/l ug/l ug/l	3 6000 4 70 300 5	11.9 ND (200) ND (3.0) ND (10) 11400 ND (3.0) 2710	43.6 824 ND (3.0) ND (10) 2580 ND (3.0) 172	12.7 597 ND (3.0) ND (10) 84000 ND (3.0) 1390	24.2 ND (200) ND (3.0) ND (10) 6740 ND (3.0) 154
Total TIC, Volatile Metals Analysis Arsenic Barium Cadmium Chromium ron .ead Manganese Mercury	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	3 6000 4 70 300 5 50 2	11.9 ND (200) ND (3.0) ND (10) 11400 11400 2710 ND (0.20)	43.6 824 ND (3.0) ND (10) 2580 2580 172 ND (0.20)	12.7 597 ND (3.0) ND (10) 84000 ND (3.0) 1390 ND (0.20)	24.2 ND (200) ND (3.0) ND (10) 6740 ND (3.0) 154 ND (0.20)
Total TIC, Volatile Metals Analysis Arsenic Sarium Cadmium Chromium ron Lead Manganese Mercury Selenium	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	3 6000 4 70 300 5 5 2	11.9 ND (200) ND (3.0) ND (10) 11400 ND (3.0) 2710 ND (0.20) ND (10)	43.6 824 ND (3.0) ND (10) 2580 ND (3.0) 172 ND (0.20) ND (10)	12.7 597 ND (3.0) ND (10) 84000 ND (3.0) 1390 ND (0.20) ND (10)	24.2 ND (200) ND (3.0) ND (10) 6740 ND (3.0) 154 ND (0.20) ND (10)
Total TIC, Volatile Metals Analysis Arsenic Barium Cadmium Chromium ron Lead Manganese Mercury Selenium	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	3 6000 4 70 300 5 5 50 2 40 40	ND (200) ND (3.0) ND (10) 11400 ND (3.0) ND (3.0) ND (0.0) ND (0.20) ND (10) 19	43.6 824 ND (3.0) ND (10) 2580 ND (3.0) 172 ND (0.20) ND (10) ND (10)	12.7 597 ND (3.0) ND (10) 84000 ND (3.0) 1390 ND (0.20) ND (10) ND (10)	24.2 ND (200) ND (3.0) ND (10) 6740 ND (3.0) 154 ND (0.20) ND (10) ND (10)
Total TIC, Volatile Metals Analysis Arsenic Sarium Cadmium Chromium ron Lead Manganese Mercury Selenium Siliver Sodium	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	3 6000 4 70 300 5 5 2	11.9 ND (200) ND (3.0) ND (10) 11400 ND (3.0) 2710 ND (0.20) ND (10)	43.6 824 ND (3.0) ND (10) 2580 ND (3.0) 172 ND (0.20) ND (10)	12.7 597 ND (3.0) ND (10) 84000 ND (3.0) 1390 ND (0.20) ND (10)	24.2 ND (200) ND (3.0) ND (10) 6740 ND (3.0) 154 ND (0.20) ND (10)
Total TIC, Volatile Metals Analysis Arsenic Sarium Cadmium Chromium Ton	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	3 6000 4 70 300 5 5 50 2 40 40	ND (200) ND (3.0) ND (10) 11400 ND (3.0) ND (3.0) ND (0.0) ND (0.20) ND (10) 19	43.6 824 ND (3.0) ND (10) 2580 ND (3.0) 172 ND (0.20) ND (10) ND (10)	12.7 597 ND (3.0) ND (10) 84000 ND (3.0) 1390 ND (0.20) ND (10) ND (10)	24.2 ND (200) ND (3.0) ND (10) 6740 ND (3.0) 154 ND (0.20) ND (10) ND (10)
Total TIC, Volatile Metals Analysis Arsenic Sarium Cadmium Chromium ron Lead Manganese Mercury Selenium Siliver Sodium	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	3 6000 4 70 300 5 5 50 2 40 40	ND (200) ND (3.0) ND (10) 11400 ND (3.0) ND (3.0) ND (0.0) ND (0.20) ND (10) 19	43.6 824 ND (3.0) ND (10) 2580 ND (3.0) 172 ND (0.20) ND (10) ND (10) 174000	12.7 597 ND (3.0) ND (10) 84000 ND (3.0) 1390 ND (0.20) ND (10) ND (10)	24.2 ND (200) ND (3.0) ND (10) 6740 ND (3.0) 154 ND (0.20) ND (10) ND (10)
Total TIC, Volatile Metals Analysis Arsenic Barium Cadmium Chromium ron Lead Manganese Mercury Selenium Silver Sodium General Chemistry Chloride Fluoride	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	3 6000 4 70 300 5 50 2 40 40 50000	11.9 ND (200) ND (3.0) ND (10) 11400 ND (3.0) ND (3.0) ND (0.20) ND (10) 19 82500	43.6 824 ND (3.0) ND (10) 2580 ND (3.0) T72 ND (0.20) ND (10) 174000	12.7 597 ND (3.0) ND (10) 84000 ND (3.0) 1390 ND (0.20) ND (10) 1660000	24.2 ND (200) ND (3.0) ND (10) 6740 ND (3.0) 154 ND (0.20) ND (10) ND (10) 376000
Fotal TIC, Volatile Metals Analysis Arsenic Sarium Chromium Chromium Chromium Chromium Silver Sodium Sodium Seneral Chemistry Chloride Filuoride Filuoride	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	3 6000 4 70 300 5 5 50 2 40 40 50000	11.9 ND (200) ND (3.0) ND (10) 11400 ND (3.0) 2710 ND (0.20) ND (10) 19 82500	43.6 824 ND (3.0) ND (10) 2580 ND (3.0) 172 ND (0.20) ND (10) ND (10) 174000	12.7 597 ND (3.0) ND (10) 84000 ND (3.0) 1390 ND (0.20) ND (10) ND (10) ND (10) 1660000	24.2 ND (200) ND (3.0) ND (10) 6740 ND (3.0) 154 ND (0.20) ND (10) ND (10) 376000
Fotal TIC, Volatile Metals Analysis Arsenic Sarium Cadmium Chromium Chromium Office of the Chromium Manganese Mercury Selenium Silver Sodium General Chemistry Chloride Fluoride Flu	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	3 6000 4 70 300 5 5 50 2 40 40 50000	11.9 ND (200) ND (3.0) ND (10) 1400 ND (3.0) 2710 ND (0.20) ND (10) 19 82500 83.8 0.86 1.4 ND (0.11) b	43.6 824 ND (3.0) ND (10) 2580 ND (3.0) 172 ND (0.20) ND (10) ND (10) 174000 368 ND (0.20) 1.8 ND (0.11) ^b	12.7 597 ND (3.0) ND (10) 84000 ND (3.0) 1390 ND (0.20) ND (10) ND (10) 1660000 3340 0.37 9.5 ND (0.11) b	24.2 ND (200) ND (3.0) ND (10) 6740 ND (3.0) 154 ND (0.20) ND (10) ND (10) 376000 514 0.55 25.1 ND (0.11) ^b
Fotal TIC, Volatile Metals Analysis Arsenic Barium Cadmium Chromium Fon Lead Manganese Mercury Selenium Silver Sodium General Chemistry Chloride Fluoride Fluorid	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	3 6000 4 70 300 5 5 2 40 40 50000	11.9 ND (200) ND (3.0) ND (10) 11400 ND (3.0) 2710 ND (10) 19 19 32500 83.8 0.86 1.4 ND (0.11) ^b ND (0.10)	43.6 824 ND (3.0) ND (10) 2580 ND (3.0) 172 ND (0.20) ND (10) 174000 368 ND (0.20) 1,8 ND (0.21) ND (0.20) 1,8 ND (0.20)	12.7 597 ND (3.0) ND (10) 84000 ND (3.0) 1390 ND (0.20) ND (10) 1660000 1660000 3340 0.37 9.5 ND (0.11)	24.2 ND (200) ND (3.0) ND (3.0) ND (10) 6740 ND (3.0) 154 ND (10) ND (10) ND (10) 376000 514 0.55 25.1 ND (0.11) ND (0.11)
Fotal TIC, Volatile Metals Analysis Arsenic Sarium Chromium Chromium Chromium Chromium Chromium Silver Sodium Selenium Se	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	3 6000 4 70 300 5 5 50 2 40 40 50000	11.9 ND (200) ND (3.0) ND (10) 11400 ND (3.0) 2710 ND (0.20) ND (10) 19 82500 83.8 0.86 1.4 ND (0.11) ND (0.10) ND (0.10) ND (0.10)	43.6 824 ND (3.0) ND (10) 2580 ND (3.0) 172 ND (0.20) ND (10) ND (10) 174000 368 ND (0.20) 1.8 ND (0.11) ^b ND (0.11)	12.7 597 ND (3.0) ND (10) 84000 ND (3.0) 1390 ND (0.20) ND (10) ND (10) 1660000 3340 0.37 9.5 ND (0.11) b ND (0.10)	24.2 ND (200) ND (3.0) ND (10) ND (10) ND (3.0) 154 ND (0.20) ND (10) ND (10) 376000 514 0.55 25.1 ND (0.11) ND (0.10) ND (0.10) ND (0.10) ND (0.10) ND (0.10)
Total TIC, Volatile Metals Analysis Arsenic Barium Cadmium Chromium Ton Lead Manganese Mercury Selenium Silver Sodium General Chemistry Chloride Fluoride Vitrogen, Ammonia Vitrogen, Nitrate Vitrogen, Nitrate Vitrogen, Nitrate Vitrogen, Nitrate Vitrogen, Nitrate Vitrogen, Nitrate Phenols	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	3 6000 4 70 300 5 50 2 40 40 50000	11.9 ND (200) ND (3.0) ND (10) 11400 ND (3.0) 2710 ND (0.20) ND (10) 19 82500 83.8 0.86 1.4 ND (0.11) ND (0.10) ND (0.01) ND (0.01) ND (0.010) ND (0.010) ND (0.020)	43.6 824 ND (3.0) ND (10) 2580 ND (3.0) 172 ND (0.20) ND (10) ND (10) 174000 368 ND (0.20) 1.8 ND (0.11) b ND (0.10) ND (0.10)	12.7 597 ND (3.0) ND (10) 84000 ND (3.0) 1390 ND (0.20) ND (10) 1660000 3340 0.37 9.5 ND (0.11) ND (0.10) 0.011 ND (0.10)	24.2 ND (200) ND (3.0) ND (10) 6740 ND (3.0) 154 ND (0.20) ND (10) 376000 514 0.55 25.1 ND (0.11) ⁵ ND (0.10) ND (0.10) ND (0.10) ND (0.10) ND (0.10) ND (0.10) ND (0.20)
Fotal TIC, Volatile Metals Analysis Arsenic Sarium Cadmium Chromium Chromium Chromium Chromium Selver Selenium Silver Sodium General Chemistry Chloride Fluoride Fluoride Fluoride Vitrogen, Ammonia Vitrogen, Ammonia Vitrogen, Nitrate + Nitrite Vitrogen, Nitrate Vitrogen, Nitrite Phepols Solids, Total Dissolved	ug/i ug/i ug/i ug/i ug/i ug/i ug/i ug/i	3 6000 4 70 300 5 5 50 2 40 40 50000	11.9 ND (200) ND (3.0) ND (10) 11400 ND (3.0) ND (10) 2710 ND (10) 19 82500 83.8 0.86 1.4 ND (0.11) ND (0.010) ND (0.010) ND (0.010) ND (0.20)	43.6 824 ND (3.0) ND (10) 2580 ND (3.0) 172 ND (0.20) ND (10) ND (10) 174000 368 ND (0.20) 1.8 ND (0.20) 1.8 ND (0.11) b ND (0.11) b ND (0.11) b	12.7 597 ND (3.0) ND (10) 84000 ND (3.0) 1390 ND (10) ND (10) 160000 160000 3340 0.37 9.5 ND (0.11) ND (0.10) 0.011 ND (0.20)	24.2 ND (200) ND (3.0) ND (3.0) ND (10) 6740 ND (3.0) 154 ND (10) ND (0.55 25.1 ND (0.11) ¹⁰ ND (0.010) ND (0.010) ND (0.20)
Fotal TIC, Volatile Metals Analysis Arsenic Sadmium Chromium Chromium Chromium Fon Lead Wanganese Mercury Selenium Silver Sodium General Chemistry	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	3 6000 4 70 300 5 50 2 40 40 50000	11.9 ND (200) ND (3.0) ND (10) 11400 ND (3.0) 2710 ND (0.20) ND (10) 19 82500 83.8 0.86 1.4 ND (0.11) ND (0.10) ND (0.01) ND (0.01) ND (0.010) ND (0.010) ND (0.020)	43.6 824 ND (3.0) ND (10) 2580 ND (3.0) 172 ND (0.20) ND (10) ND (10) 174000 368 ND (0.20) 1.8 ND (0.11) b ND (0.10) ND (0.10)	12.7 597 ND (3.0) ND (10) 84000 ND (3.0) 1390 ND (0.20) ND (10) 1660000 3340 0.37 9.5 ND (0.11) ND (0.10) 0.011 ND (0.10)	24.2 ND (200) ND (3.0) ND (10) 6740 ND (3.0) 154 ND (0.20) ND (10) 376000 514 0.55 25.1 ND (0.11) ⁵ ND (0.10) ND (0.10) ND (0.10) ND (0.10) ND (0.10) ND (0.10) ND (0.20)
Total TIC, Volatile Metals Analysis Arsenic Sarium Cadmium Chromium Chromium Chromium Chromium Chromium Selevium Selevium Sodium General Chemistry Chloride Fluoride Fluoride Vitrogen, Ammonia Vitrogen, Nitrate + Nitrite Specific Conductivity	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	3 6000 4 70 300 5 5 50 2 40 40 40 50000 2 3 10 10	11.9 ND (200) ND (3.0) ND (10) 11400 ND (3.0) 2710 ND (10) 19 82500 83.8 0.86 1.4 ND (0.11) ND (0.01) ND (0.01) ND (0.01) ND (0.02)	43.6 824 ND (3.0) ND (10) 2580 ND (3.0) 172 ND (0.20) ND (10) ND (10) 174000 368 ND (0.20) 1.8 ND (0.21) 1.8 ND (0.20) 1.8 ND (0.11) b ND (0.11) b ND (0.10) ND (0.11) b ND (0.20) 953	12.7 597 ND (3.0) ND (10) 84000 ND (3.0) 1390 ND (10) ND (10) ND (10) ND (10) ND (10) ND (10) 1660000 3340 0.37 9.5 ND (0.11) ND (0.10) ND (0.10) ND (0.10) 10000	24.2 ND (200) ND (3.0) ND (10) ND (10) ND (3.0) 154 ND (0.20) ND (10) ND (10) 376000 514 0.55 25.1 ND (0.11) ND (0.10) ND (0.10) ND (0.20) 1080 3530

Footnotes: a Associated CCV outside of control limits low. b Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Hess Corporation Former Port Reading Terminal 750 Cliff Road, Port Reading, New Jersey

No. 1 Landfarm Groundwater Sampling Analytical Results

Client Sample ID: Lab Sample ID: Date Sampled:		NJ Groundwater Criteria (NJAC	NJ Interim Groundwater Criteria (NJAC	L1-1 JD10216-3 7/15/2020	L1-2 JD10216-4 7/15/2020	L1-3 JD10216-5 7/15/2020	L1-4 JD10216-6 7/15/2020	BG-2 JD10216-7 7/15/2020	BG-3 JD10216-8 7/15/2020
Matrix:		7:9C 9/4/18) ¹	7:9C 1/17/19) ²	Ground Water					
MS Volatiles (SW846 8260C)									
Acetone	ug/l	6000	-	ND (6.0)					
Benzene	ug/l	1	-	ND (0.43)					
Bromochloromethane	ug/l	-	-	ND (0.48)					
Bromodichloromethane Bromoform	ug/l ug/l	<u> </u>	-	ND (0.58) ND (0.63)					
Bromomethane	ug/l	10	-	ND (0.03)	ND (0.03)	ND (0.03)	ND (0.63)	ND (0.03)	ND (0.03)
2-Butanone (MEK)	ug/l	300	-	ND (6.9)					
Carbon disulfide	ug/l	700	-	ND (0.95) ^a	ND (0.95) ^a	ND (0.95) a	ND (0.95) ^a	ND (0.95) a	ND (0.95) a
Carbon tetrachloride	ug/l	1	ī	ND (0.55)					
Chlorobenzene	ug/l	50	-	ND (0.56)	14	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)
Chloroethane Chloroform	ug/l ug/l	- 70	5 -	ND (0.73) ND (0.50)					
Chloromethane	ug/l	-	-	ND (0.50)					
Cyclohexane	ug/l	-	-	ND (0.78)					
1,2-Dibromo-3-chloropropane	ug/l	0.02	ī	ND (1.2)					
Dibromochloromethane	ug/l	1	-	ND (0.56)					
1,2-Dibromoethane 1,2-Dichlorobenzene	ug/l	0.03 600	-	ND (0.48)	ND (0.48) ND (0.53)				
1,2-Dichlorobenzene 1.3-Dichlorobenzene	ug/l ug/l	600	-	ND (0.53) ND (0.54)	ND (0.53) 0.64 J	ND (0.53) ND (0.54)	ND (0.53) ND (0.54)	ND (0.53) ND (0.54)	ND (0.53) ND (0.54)
1,4-Dichlorobenzene	ug/l	75	-	ND (0.51)	1.5	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
Dichlorodifluoromethane	ug/l	1000	-	ND (1.4)					
1,1-Dichloroethane	ug/l	50	-	ND (0.57)					
1,2-Dichloroethane	ug/l	2	-	ND (0.60)					
1,1-Dichloroethene cis-1,2-Dichloroethene	ug/l ug/l	1 70	-	ND (0.59) ND (0.51)					
trans-1,2-Dichloroethene	ug/l	100	-	ND (0.54)					
1,2-Dichloropropane	ug/l	1	i	ND (0.51)					
cis-1,3-Dichloropropene	ug/l	-	-	ND (0.47)					
trans-1,3-Dichloropropene	ug/l	-	-	ND (0.43)					
Ethylbenzene Freon 113	ug/l ug/l	700 20000	-	ND (0.60) ND (1.9)					
2-Hexanone	ug/l	40	-	ND (2.0)					
Isopropylbenzene	ug/l	700	-	ND (0.65)					
Methyl Acetate	ug/l	7000	-	ND (0.80)					
Methylcyclohexane	ug/l	-	-	ND (0.60)					
Methyl Tert Butyl Ether 4-Methyl-2-pentanone(MIBK)	ug/l ug/l	70	-	ND (0.51) ND (1.9)					
Methylene chloride	ug/l	3	-	ND (1.0)					
Styrene	ug/l	100	-	ND (0.70)					
Tert Butyl Alcohol	ug/l	100	-	ND (5.8)					
1,1,2,2-Tetrachloroethane	ug/l	1	-	ND (0.65)					
Tetrachloroethene	ug/l	1	-	ND (0.90)	ND (0.90) ND (0.53)	ND (0.90)	ND (0.90) ND (0.53)	ND (0.90)	ND (0.90)
Toluene 1,2,3-Trichlorobenzene	ug/l ug/l	600	-	ND (0.53) ND (0.50)	ND (0.53)	ND (0.53) ND (0.50)	ND (0.53)	ND (0.53) ND (0.50)	ND (0.53) ND (0.50)
1,2,4-Trichlorobenzene	ug/l	9	-	ND (0.50)					
1,1,1-Trichloroethane	ug/l	30	•	ND (0.54)					
1,1,2-Trichloroethane	ug/l	3	-	ND (0.53)					
Trichloroethene Trichlorofluoromethane	ug/l	2000	-	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53) ND (0.84)	ND (0.53)	ND (0.53)
Vinyl chloride	ug/l ug/l	1	-	ND (0.84) ND (0.79)	ND (0.84) ND (0.79)	ND (0.84) ND (0.79)	ND (0.84)	ND (0.84) ND (0.79)	ND (0.84) ND (0.79)
m,p-Xylene	ug/l	-	-	ND (0.78)					
o-Xylene	ug/l	-	-	ND (0.59)					
Xylene (total)	ug/l	1000	-	ND (0.59)					
MS Volatile TIC									
Total TIC, Volatile	ug/l	=	-	0	5.6 J	0	0	0	0
MS Semi-volatiles (SW846 8270)	D)								
2-Chlorophenol	ug/l	40		ND (0.80)	ND (0.80)	ND (0.82)	ND (0.82)	ND (0.80)	ND (0.79)
4-Chloro-3-methyl phenol	ug/l	-	100	ND (0.87)	ND (0.87)	ND (0.89)	ND (0.89)	ND (0.87)	ND (0.86)
2,4-Dichlorophenol 2,4-Dimethylphenol	ug/l ug/l	20 100	-	ND (1.2) ND (2.4)	ND (1.2) ND (2.4)	ND (1.3) ND (2.4)	ND (1.3) ND (2.4)	ND (1.2) ND (2.4)	ND (1.2) ND (2.3)
2,4-Dinitrophenol	ug/l	40	-	ND (2.4)	ND (2.5) b				
2-Methylphenol	ug/l	50	-	ND (0.86)	ND (1.3) ND (0.87)	ND (1.8)	ND (0.89)	ND (0.86)	ND (1.5)
3&4-Methylphenol	ug/l	50	-	ND (0.85)	ND (0.86)	ND (0.88)	ND (0.88)	ND (0.85)	ND (0.85)
2-Nitrophenol	ug/l	-	-	ND (0.93) b	ND (0.94) b	ND (0.96) b	ND (0.96) b	ND (0.93)	ND (0.92)
4-Nitrophenol	ug/l	-	ı	ND (1.1) b	ND (1.1) b	ND (1.2) b	ND (1.2) b	ND (1.1) b	ND (1.1) b
Phenol	ug/l	2000	-	ND (0.38)	ND (0.38)	ND (0.39)	ND (0.39)	ND (0.38)	ND (0.38)
2,3,4,6-Tetrachlorophenol	ug/l	200	-	ND (1.4)	ND (1.4)	ND (1.5)	ND (1.5)	ND (1.4)	ND (1.4)
2,4,5-Trichlorophenol				ND (1.3)					
	ug/l	700	-						ND (C CC)
2,4,6-Trichlorophenol	ug/l	20	-	ND (0.90)	ND (0.91)	ND (0.92)	ND (0.92)	ND (0.90)	ND (0.89)
2,4,6-Trichlorophenol Acenaphthene	ug/l ug/l	20 400	-	ND (0.90) ND (0.19)	ND (0.91) ND (0.19)	ND (0.92) ND (0.19)	ND (0.92) ND (0.19)	ND (0.90) ND (0.19)	ND (0.18)
2,4,6-Trichlorophenol	ug/l	20		ND (0.90)	ND (0.91)	ND (0.92)	ND (0.92)	ND (0.90)	

Hess Corporation Former Port Reading Terminal 750 Cliff Road, Port Reading, New Jersey

No. 1 Landfarm Groundwater Sampling Analytical Results

Client Sample ID:			NJ Interim	L1-1	L1-2	L1-3	L1-4	BG-2	BG-3
Lab Sample ID:		NJ Groundwater	Groundwater	JD10216-3	JD10216-4	JD10216-5	JD10216-6	JD10216-7	JD10216-8
Date Sampled:		Criteria (NJAC	Criteria (NJAC	7/15/2020	7/15/2020	7/15/2020	7/15/2020	7/15/2020	7/15/2020
Matrix:		7:9C 9/4/18) ¹	7:9C 1/17/19) ²	Ground Water					
Atrazine	ug/l	3	-	ND (0.43) b	ND (0.44) b	ND (0.45) b	ND (0.45) b	ND (0.43) b	ND (0.43) b
Benzaldehyde	ug/l	-	-	ND (0.28)	ND (0.28)	ND (0.29)	ND (0.29)	ND (0.28)	ND (0.28)
Benzo(g,h,i)perylene	ug/l	i	100	ND (0.33)	ND (0.33)	ND (0.34)	ND (0.34)	ND (0.33)	ND (0.33)
4-Bromophenyl phenyl ether	ug/l	-	-	ND (0.39)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.39)	ND (0.39)
Butyl benzyl phthalate	ug/l	100	-	ND (0.44) ^b	ND (0.45) b	ND (0.46) ^b	ND (0.46) b	ND (0.44) ^b	ND (0.44) ^b
1,1'-Biphenyl	ug/l	400	-	ND (0.21)	ND (0.20)				
2-Chloronaphthalene 4-Chloroaniline	ug/l ug/l	600 30	-	ND (0.23) ND (0.33)	ND (0.23) ND (0.33)	ND (0.24) ND (0.34)	ND (0.24) ND (0.34)	ND (0.23) ND (0.33)	ND (0.23) ND (0.33)
Carbazole	ug/l	-	-	ND (0.33)	ND (0.33)	ND (0.23)	ND (0.23)	ND (0.33)	ND (0.22)
Caprolactam	ug/l	4000	-	ND (0.63)	ND (0.64)	ND (0.65)	ND (0.65)	ND (0.63)	ND (0.62)
Chrysene	ug/l	5	_	ND (0.17)	ND (0.17)	ND (0.18)	ND (0.18)	ND (0.17)	ND (0.17)
bis(2-Chloroethoxy)methane	ug/l	-	-	ND (0.27)	ND (0.27)	ND (0.28)	ND (0.28)	ND (0.27)	ND (0.27)
bis(2-Chloroethyl)ether	ug/l	7	-	ND (0.24)	ND (0.24)	ND (0.25)	ND (0.25)	ND (0.24)	ND (0.24)
2,2'-Oxybis(1-chloropropane)	ug/l	300	-	ND (0.39)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.39)	ND (0.39)
4-Chlorophenyl phenyl ether	ug/l	-	-	ND (0.36)	ND (0.36)	ND (0.37)	ND (0.37)	ND (0.36)	ND (0.35)
2,4-Dinitrotoluene	ug/l	-	-	ND (0.54)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.54)	ND (0.53)
2,6-Dinitrotoluene	ug/l	-	-	ND (0.46)	ND (0.47)	ND (0.48)	ND (0.48)	ND (0.46)	ND (0.46)
3,3'-Dichlorobenzidine	ug/l	30	-	ND (0.49) b	ND (0.50) b	ND (0.51) b	ND (0.51) b	ND (0.49)	ND (0.49)
Dibenzofuran	ug/l	- 700	-	ND (0.21)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.21)	ND (0.21)
Di-n-butyl phthalate	ug/l	700	-	ND (0.48) b	ND (0.49) b	ND (0.50) b	ND (0.50) b	ND (0.48) b	ND (0.48) b
Di-n-octyl phthalate	ug/l	100	-	ND (0.23) b	ND (0.22) b				
Diethyl phthalate Dimethyl phthalate	ug/l ug/l	6000	100	ND (0.25) ND (0.21)	ND (0.26) ND (0.21)	ND (0.26) ND (0.22)	ND (0.26) ND (0.22)	ND (0.25) ND (0.21)	ND (0.25) ND (0.21)
bis(2-Ethylhexyl)phthalate	ug/l	3	-	ND (0.21)	ND (0.21)	ND (0.22) ND (1.7)	ND (0.22)	1.8 J ^c	ND (0.21) ND (1.6) ^b
Fluoranthene	ug/I ug/I	300	-	ND (1.6) ND (0.17)	ND (1.6) ND (0.17)	ND (1.7) ND (0.17)	ND (1.7) ND (0.17)	ND (0.17)	ND (1.6) ND (0.16)
Fluorene	ug/l	300	-	ND (0.17)	ND (0.16)				
Hexachlorocyclopentadiene	ug/l	40	-	ND (2.7)	ND (2.7)	ND (2.8)	ND (2.8)	ND (2.7)	ND (2.7)
Hexachloroethane	ug/l	7	-	ND (0.38)	ND (0.38)	ND (0.39)	ND (0.39)	ND (0.38)	ND (0.37)
Isophorone	ug/l	40	-	ND (0.27)	ND (0.27)	ND (0.28)	ND (0.28)	ND (0.27)	ND (0.27)
2-Methylnaphthalene	ug/l	30	-	ND (0.20)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.20)	ND (0.20)
2-Nitroaniline	ug/l	-	-	ND (0.27) b	ND (0.27) b	ND (0.28) b	ND (0.28) b	ND (0.27) b	ND (0.27) b
3-Nitroaniline	ug/l	-	-	ND (0.38)	ND (0.38)	ND (0.39)	ND (0.39)	ND (0.38)	ND (0.37)
4-Nitroaniline	ug/l	-	-	ND (0.43)	ND (0.43)	ND (0.44)	ND (0.44)	ND (0.43)	ND (0.42)
Naphthalene	ug/l ug/l	300 6	-	ND (0.23) ND (0.62)	ND (0.23) ND (0.63)	ND (0.23) ND (0.64)	ND (0.23) ND (0.64)	ND (0.23) ND (0.62)	ND (0.22) ND (0.62)
Nitrobenzene N-Nitroso-di-n-propylamine	ug/l	10	-	ND (0.47)	ND (0.47)	ND (0.48)	ND (0.48)	ND (0.47)	ND (0.46)
N-Nitrosodiphenylamine	ug/l	10	-	ND (0.22)	ND (0.40)				
Phenanthrene	ug/l	-	-	ND (0.17)	ND (0.17)	ND (0.18)	ND (0.18)	ND (0.17)	ND (0.17)
Pyrene	ug/l	200	-	ND (0.21)	0.22 J	ND (0.22)	ND (0.22)	ND (0.21)	ND (0.21)
1,2,4,5-Tetrachlorobenzene	ug/l	-	-	ND (0.36)	ND (0.36)	ND (0.37)	ND (0.37)	ND (0.36)	ND (0.36)
MS Semi-volatiles (SW846 82700	BY S	SIM)							
						1			
4,6-Dinitro-o-cresol	ug/l	0.7	-	ND (0.15) b					
Pentachlorophenol	ug/l	0.3	-	ND (0.13) ^d	ND (0.12) ^d				
Benzo(a)anthracene	ug/l	0.1	-	ND (0.022)	ND (0.022)	ND (0.023)	ND (0.023)	ND (0.022)	ND (0.022)
Benzo(a)pyrene	ug/l	0.1	-	ND (0.032)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.032)	ND (0.032)
Benzo(b)fluoranthene Benzo(k)fluoranthene	ug/l ug/l	0.2 0.5	-	ND (0.042) ND (0.049)	ND (0.043) ND (0.049)	ND (0.043) ND (0.050)	ND (0.043) ND (0.050)	ND (0.042) ND (0.049)	ND (0.042) ND (0.048)
Dibenzo(a,h)anthracene	ug/l	0.3	-	ND (0.049)	ND (0.049)	ND (0.050)	ND (0.050)	ND (0.049)	ND (0.048)
Hexachlorobenzene	ua/l	0.02	-	ND (0.011)					
Hexachlorobutadiene	ug/l	1	-	ND (0.049)	ND (0.049)	ND (0.050)	ND (0.050)	ND (0.049)	ND (0.048)
Indeno(1,2,3-cd)pyrene	ug/l	0.2	-	ND (0.049)	ND (0.049)	ND (0.050)	ND (0.050)	ND (0.049)	ND (0.048)
1,4-Dioxane	ug/l	0.4	-	ND (0.049) b	ND (0.049) b	ND (0.050) b	ND (0.050) b	ND (0.049) b	ND (0.048) b
MS Semi-volatile TIC									
Total TIC. Semi-Volatile	lua"	-	-	0	4.6 J	0	0	12.6 J	0
- 1	ug/l	-	-	U	4.0 J	U	U	12.0 J	0
Metals Analysis									
Aluminum	ug/l	200	-	1660	ND (200)	983	ND (200)	ND (200)	ND (200)
Antimony	ug/l	6	-	ND (6.0)					
Arsenic	ug/l	3	-	1.1	27.3	12.5	2	15	30.1
Barium	ug/l	6000	-	ND (200)	202	ND (200)	ND (200)	ND (200)	321
Beryllium	ug/l	1	-	ND (1.0)					
Cadmium	ug/l	4	-	ND (3.0)					
Chromium	ug/l	- 70	-	ND (5000) ND (10)	29600 ND (10)	10400 ND (10)	58300 ND (10)	6730	34700 ND (10)
Chromium Cobalt	ug/l ug/l	100	-	ND (10) ND (50)					
Copper	ug/I ug/I	1300	-	10.9	ND (50) ND (10)	ND (50)	ND (50) ND (10)	ND (50)	ND (50)
Iron	ug/l	300	-	1820	23000	6650	586	4450	67000
Lead	ug/l	5	-	3.5	ND (3.0)	3.5	ND (3.0)	ND (3.0)	ND (3.0)
Magnesium	ug/l	-	-	ND (5000)	18100	7250	12500	ND (5000)	8500
Manganese	ug/l	50	-	16.7	259	204	37.1	43.9	425
Mercury	ug/l	2	-	ND (0.20)					
Nickel	ug/l	100	-	ND (10)					
Potassium	ug/l	-	-	ND (10000)	11300	ND (10000)	ND (10000)	ND (10000)	ND (10000)
Selenium	ug/l	40	-	ND (10)					

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No. 1 Landfarm Groundwater Sampling Analytical Results

Client Sample ID:			NJ Interim	L1-1	L1-2	L1-3	L1-4	BG-2	BG-3
Lab Sample ID:		NJ Groundwater	Groundwater	JD10216-3	JD10216-4	JD10216-5	JD10216-6	JD10216-7	JD10216-8
Date Sampled:		Criteria (NJAC	Criteria (NJAC	7/15/2020	7/15/2020	7/15/2020	7/15/2020	7/15/2020	7/15/2020
Matrix:		7:9C 9/4/18) ¹	7:9C 1/17/19) ²	Ground Water					
Silver	ug/l	40	-	ND (10)					
Sodium	ug/l	50000	-	51100	163000	56600	<10000	32300	32900
Thallium	ug/l	2	-	ND (1.0)					
Vanadium	ug/l	-	-	ND (50)					
Zinc	ug/l	2000	-	84.5	23.8	29.1	ND (20)	59.2	21.2
General Chemistry									
Cyanide	ug/l	100	-	ND (10)					
Nitrogen, Ammonia	ug/l	3000	-	ND (200)	1900	490	ND (200)	490	680
Phenols	ug/l	-	-	ND (200)					

Footnotes:

^a Associated CCV outside of control limits low.

 $^{^{\}rm b}$ Associated CCV outside of control limits high, sample was ND.

^c Associated CCV outside of control limits high. Estimated value, due to corresponding failure in the batch associated CCV.

d Associated CCV outside of control limits low. Low-level verification was analyzed to demonstrate system suitability to detect affected analytes. Sample was ND.

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No 1 Landfarm Groundwater Sampling Analytical Results - October 2020

Client Sample ID:		NJ Groundwater	ТВ	FB	L1-1	L1-2	L1-3	L1-4	BG-2	BG-3
Lab Sample ID:		Criteria (NJAC	JD14366-1	JD14366-2	JD14366-3	JD14366-4	JD14366-5	JD14366-6	JD14366-7	JD14366-8
Date Sampled:		7:9C 9/4/18)	10/7/2020	10/7/2020	10/7/2020	10/7/2020	10/7/2020	10/7/2020	10/7/2020	10/7/2020
Matrix:		, , ,	Trip Blank	Field Blank	Ground	Ground	Ground	Ground	Ground	Ground Water
mau ix.			Water	Ground Water						
MS Volatiles (SW846 8260D)										
Acetone	ug/l	6000	ND (6.0)							
Benzene	ug/l	1	ND (0.43)							
Bromochloromethane	ug/l	-	ND (0.48)							
Bromodichloromethane	ug/l	1	ND (0.45)							
Bromoform	ug/l	4	ND (0.63)							
Bromomethane	ug/l	10	ND (1.6)							
2-Butanone (MEK)	ug/l	300	ND (6.9)							
Carbon disulfide	ug/l	700	ND (0.46)							
Carbon tetrachloride	ug/l	1	ND (0.55)							
Chlorobenzene	ug/l	50	ND (0.56)	ND (0.56)	ND (0.56)	14.3	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)
Chloroethane	ug/l	-	ND (0.73)							
Chloroform	ug/l	70	ND (0.50)							
Chloromethane	ug/l	-	ND (0.76)							
Cyclohexane	ug/l	-	ND (0.78)							
1,2-Dibromo-3-chloropropane	ug/l	0.02	ND (1.2)							
Dibromochloromethane	ug/l	1	ND (0.56)							
1,2-Dibromoethane	ug/l	0.03	ND (0.48)							
1,2-Dichlorobenzene	ug/l	600	ND (0.53)							
1,3-Dichlorobenzene	ug/l	600	ND (0.54)							
1,4-Dichlorobenzene	ug/l	75	ND (0.51)	ND (0.51)	ND (0.51)	1.4	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
Dichlorodifluoromethane	ug/l	1000	ND (1.4) ^a							
1,1-Dichloroethane	ug/l	50	ND (0.57)							
1,2-Dichloroethane	ug/l	2	ND (0.60)							
1,1-Dichloroethene	ug/l	1	ND (0.59)							
cis-1,2-Dichloroethene	ug/l	70	ND (0.51)							
trans-1,2-Dichloroethene	ug/l	100	ND (0.54)							
1,2-Dichloropropane	ug/l	1	ND (0.51)							
cis-1,3-Dichloropropene	ug/l	-	ND (0.47)							
trans-1,3-Dichloropropene	ug/l	-	ND (0.43)							
Ethylbenzene	ug/l	700	ND (0.60)							
Freon 113	ug/l	20000	ND (1.9)							
2-Hexanone	ug/l	40	ND (2.0)							
Isopropylbenzene	ug/l	700	ND (0.65)							
Methyl Acetate	ug/l	7000	ND (0.80)							
Methylcyclohexane	ug/l	-	ND (0.60)							
Methyl Tert Butyl Ether	ug/l	70	ND (0.51)							
4-Methyl-2-pentanone(MIBK)	ug/l	-	ND (1.9)							
Methylene chloride	ug/l	3	ND (1.0)							
Styrene	ug/l	100	ND (0.49)							
Tert Butyl Alcohol	ug/l	100	ND (5.8)							
1,1,2,2-Tetrachloroethane	ug/l	1	ND (0.65)							
Tetrachloroethene	ug/l	1	ND (0.90)							
Toluene	ug/l	600	ND (0.53)							
1,2,3-Trichlorobenzene	ug/l	-	ND (0.50)							
1,2,4-Trichlorobenzene	ug/l	9	ND (0.50)							
1,1,1-Trichloroethane	ug/l	30	ND (0.54)							
1,1,2-Trichloroethane	ug/l	3	ND (0.53)							
Trichloroethene	ug/l	1	ND (0.53)							
Trichlorofluoromethane	ug/l	2000	ND (0.40)							
Vinyl chloride	ug/l	1	ND (0.79)							
m,p-Xylene	ug/l	-	ND (0.78)							
o-Xylene	ug/l	-	ND (0.59)							

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No 1 Landfarm Groundwater Sampling Analytical Results - October 2020

Client Sample ID:		NJ Groundwater	ТВ	FB	L1-1	L1-2	L1-3	L1-4	BG-2	BG-3
Lab Sample ID:		Criteria (NJAC	JD14366-1	JD14366-2	JD14366-3	JD14366-4	JD14366-5	JD14366-6	JD14366-7	JD14366-8
Date Sampled:		7:9C 9/4/18)	10/7/2020	10/7/2020	10/7/2020	10/7/2020	10/7/2020	10/7/2020	10/7/2020	10/7/2020
Matrix:			Trip Blank	Field Blank	Ground	Ground	Ground	Ground	Ground	Ground Water
			Water	Water	Water	Water	Water	Water	Water	Ground Fraid
MS Volatile TIC										
Total TIC, Volatile	ug/l	-	0	0	0	0	0	0	0	0
MS Semi-volatiles (SW846 8270	E)									
2-Chlorophenol	ug/l	40	-	ND (0.82)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.82)	ND (0.80)	ND (0.86)
4-Chloro-3-methyl phenol	ug/l	-	-	ND (0.89)	ND (0.87)	ND (0.87)	ND (0.87)	ND (0.89)	ND (0.87)	ND (0.94)
2,4-Dichlorophenol	ug/l	20	-	ND (1.3)	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.3)	ND (1.2)	ND (1.3)
2,4-Dimethylphenol	ug/l	100	-	ND (2.4) ^a	ND (2.6) ^a					
2,4-Dinitrophenol	ug/l	40	-	ND (1.6) ^b	ND (1.5) b	ND (1.5) b	ND (1.5) b	ND (1.6) b	ND (1.5) b	ND (1.6) b
2-Methylphenol	ug/l	50	-	ND (0.89)	ND (0.87)	ND (0.87)	ND (0.87)	ND (0.89)	ND (0.87)	ND (0.93)
3&4-Methylphenol	ug/l	50	-	ND (0.88)	ND (0.86)	ND (0.86)	ND (0.86)	ND (0.88)	ND (0.86)	ND (0.93)
2-Nitrophenol	ug/l	-	-	ND (0.96)	ND (0.94)	ND (0.94)	ND (0.94)	ND (0.96)	ND (0.94)	ND (1.0)
4-Nitrophenol	ug/l	-	-	ND (1.2)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.2)	ND (1.1)	ND (1.2)
Phenol	ug/l	2000	-	ND (0.39)	ND (0.38)	ND (0.38)	ND (0.38)	ND (0.39)	ND (0.38)	ND (0.41)
2,3,4,6-Tetrachlorophenol	ug/l	200	-	ND (1.5)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.5)	ND (1.4)	ND (1.5)
2,4,5-Trichlorophenol	ug/l	700	-	ND (1.3)	ND (1.4)					
2,4,6-Trichlorophenol	ug/l	20	-	ND (0.92)	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.92)	ND (0.90)	ND (0.97)
Acenaphthene	ug/l	400	-	ND (0.19)	ND (0.19)	ND (0.19)	0.44 J	ND (0.19)	ND (0.19)	ND (0.20)
Acenaphthylene	ug/l	-	-	ND (0.14)	ND (0.13)	ND (0.13)	ND (0.13)	ND (0.14)	ND (0.13)	ND (0.14)
Acetophenone	ug/l	700	_	ND (0.21)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.21)	ND (0.20)	ND (0.22)
Anthracene	ug/l	2000	_	ND (0.21)	ND (0.22)					
Atrazine	ug/l	3	_	ND (0.45)	ND (0.44)	ND (0.44)	ND (0.44)	ND (0.45)	ND (0.44)	ND (0.47)
Benzaldehyde	ug/l	-	_	ND (0.29)	ND (0.28)	ND (0.28)	ND (0.28)	ND (0.29)	ND (0.28)	ND (0.30)
Benzo(g,h,i)perylene	ug/l	-	_	ND (0.34)	ND (0.33)	ND (0.33)	ND (0.33)	ND (0.34)	ND (0.33)	ND (0.36)
4-Bromophenyl phenyl ether	ug/l	-	_	ND (0.40)	ND (0.39)	ND (0.39)	ND (0.39)	ND (0.40)	ND (0.39)	ND (0.43)
Butyl benzyl phthalate	ug/l	100	_	ND (0.46)	ND (0.45)	ND (0.45)	ND (0.45)	ND (0.46)	ND (0.45)	ND (0.48)
1,1'-Biphenyl	ug/l	400		ND (0.40)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.40)	ND (0.43)	ND (0.40)
	+	600		ND (0.24)						
2-Chloronaphthalene	ug/l	30	-		ND (0.23)	ND (0.23)	ND (0.23)	ND (0.24)	ND (0.23)	ND (0.25)
4-Chloroaniline	ug/l		-	ND (0.34)	ND (0.33)	ND (0.33)	ND (0.33)	ND (0.34)	ND (0.33)	ND (0.36)
Carbazole	ug/l	-	-	ND (0.23)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.23)	ND (0.22)	ND (0.24)
Caprolactam	ug/l	4000	-	ND (0.65)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.65)	ND (0.63)	ND (0.68)
Chrysene	ug/l	5	-	ND (0.18)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.18)	ND (0.17)	ND (0.19)
bis(2-Chloroethoxy)methane	ug/l	-	-	ND (0.28)	ND (0.27)	ND (0.27)	ND (0.27)	ND (0.28)	ND (0.27)	ND (0.29)
bis(2-Chloroethyl)ether	ug/l	7	-	ND (0.25)	ND (0.24)	ND (0.24)	ND (0.24)	ND (0.25)	ND (0.24)	ND (0.26)
2,2'-Oxybis(1-chloropropane)	ug/l	300	-	ND (0.40)	ND (0.39)	ND (0.39)	ND (0.39)	ND (0.40)	ND (0.39)	ND (0.42)
4-Chlorophenyl phenyl ether	ug/l	-	-	ND (0.37)	ND (0.36)	ND (0.36)	ND (0.36)	ND (0.37)	ND (0.36)	ND (0.39)
2,4-Dinitrotoluene	ug/l	-	-	ND (0.55)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.55)	ND (0.54)	ND (0.58)
2,6-Dinitrotoluene	ug/l	-	-	ND (0.48)	ND (0.46)	ND (0.46)	ND (0.46)	ND (0.48)	ND (0.46)	ND (0.50)
3,3'-Dichlorobenzidine	ug/l	30	-	ND (0.51)	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.51)	ND (0.49)	ND (0.53)
Dibenzofuran	ug/l	-	-	ND (0.22)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.22)	ND (0.21)	ND (0.23)
Di-n-butyl phthalate	ug/l	700	-	ND (0.50)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.50)	ND (0.48)	ND (0.52)
Di-n-octyl phthalate	ug/l	100	-	ND (0.23)	ND (0.25)					
Diethyl phthalate	ug/l	6000	-	ND (0.26)	ND (0.28)					
Dimethyl phthalate	ug/l	-	-	ND (0.22)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.22)	ND (0.21)	ND (0.23)
bis(2-Ethylhexyl)phthalate	ug/l	3	-	ND (1.7)	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.7)	ND (1.6)	ND (1.7)
Fluoranthene	ug/l	300	-	ND (0.17)	ND (0.18)					
Fluorene	ug/l	300	-	ND (0.17)	ND (0.18)					
Hexachlorocyclopentadiene	ug/l	40	-	ND (2.8) b	ND (2.7) b	ND (2.7) b	ND (2.7) b	ND (2.8) b	ND (2.7) b	ND (2.9) b
Hexachloroethane	ug/l	7	-	ND (0.39)	ND (0.38)	ND (0.38)	ND (0.38)	ND (0.39)	ND (0.38)	ND (0.41)
Isophorone	ug/l	40	-	ND (0.28)	ND (0.27)	ND (0.27)	ND (0.27)	ND (0.28)	ND (0.27)	ND (0.29)
2-Methylnaphthalene	ug/l	30	-	ND (0.21)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.21)	ND (0.20)	ND (0.22)
2-Nitroaniline	ug/l	-	_	ND (0.28)	ND (0.27)	ND (0.27)	ND (0.27)	ND (0.28)	ND (0.27)	ND (0.29)
3-Nitroaniline	ug/l	-	_	ND (0.39)	ND (0.38)	ND (0.38)	ND (0.38)	ND (0.39)	ND (0.38)	ND (0.41)
4-Nitroaniline	ug/l	-	_	ND (0.44)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.44)	ND (0.43)	ND (0.41)
Naphthalene	ug/l	300		ND (0.23)	ND (0.24)					
парпиниона	uy/I	300	L	110 (0.23)	(0.23)	110 (0.23)	110 (0.23)	110 (0.23)	110 (0.23)	110 (0.24)

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No 1 Landfarm Groundwater Sampling Analytical Results - October 2020

Client Sample ID:		NJ Groundwater	ТВ	FB	L1-1	L1-2	L1-3	L1-4	BG-2	BG-3
						JD14366-4				
Lab Sample ID: Date Sampled:		Criteria (NJAC	JD14366-1 10/7/2020	JD14366-2 10/7/2020	JD14366-3 10/7/2020	10/7/2020	JD14366-5 10/7/2020	JD14366-6 10/7/2020	JD14366-7 10/7/2020	JD14366-8 10/7/2020
Matrix:		7:9C 9/4/18)	Trip Blank	Field Blank	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Nitrobenzene	ug/l	6	Water	Water ND (0.64)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.64)	ND (0.63)	ND (0.68)
N-Nitroso-di-n-propylamine	ug/l	10	-	ND (0.48)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.48)	ND (0.47)	ND (0.51)
N-Nitrosodiphenylamine	ug/l	10	-	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.23)
Phenanthrene	ug/l	-	-	ND (0.18)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.18)	ND (0.17)	ND (0.18)
Pyrene	ug/l	200	-	ND (0.22)	ND (0.21)	0.30 J	ND (0.21)	ND (0.22)	ND (0.21)	0.32 J
1,2,4,5-Tetrachlorobenzene	ug/l	-	-	ND (0.37)	ND (0.36)	ND (0.36)	ND (0.36)	ND (0.37)	ND (0.36)	ND (0.39)
MS Semi-volatiles (SW846 8270	E BY S	SIM)								
4,6-Dinitro-o-cresol	ug/l	0.7	_	ND (0.15)	ND (0.15) °	ND (0.15) °	ND (0.15) °	ND (0.15) °	ND (0.15) °	ND (0.16) °
Pentachlorophenol	ug/l	0.3	-	ND (0.13)	ND (0.13) °	ND (0.13) °	ND (0.13) °	ND (0.13) °	ND (0.13) °	ND (0.14) °
Benzo(a)anthracene	ug/l	0.1	-	ND (0.022)	ND (0.022)	ND (0.022)	ND (0.022)	ND (0.023)	ND (0.022)	ND (0.024)
Benzo(a)pyrene	ug/l	0.1	-	ND (0.032)	ND (0.032)	ND (0.032)	ND (0.032)	ND (0.033)	ND (0.032)	ND (0.035)
Benzo(b)fluoranthene	ug/l	0.2	-	ND (0.042)	ND (0.042)	ND (0.042)	ND (0.042)	ND (0.043)	ND (0.042)	ND (0.046)
Benzo(k)fluoranthene	ug/l	0.5	-	ND (0.049)	ND (0.049)	ND (0.049)	ND (0.049)	ND (0.050)	ND (0.049)	ND (0.053)
Dibenzo(a,h)anthracene	ug/l	0.3	-	ND (0.049)	ND (0.049)	ND (0.049)	ND (0.049)	ND (0.050)	ND (0.049)	ND (0.053)
Hexachlorobenzene	ug/l	0.02	-	ND (0.011) b	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.012)
Hexachlorobutadiene	ug/l	1	-	ND (0.049) b	ND (0.049)	ND (0.049)	ND (0.049)	ND (0.050)	ND (0.049)	ND (0.053)
Indeno(1,2,3-cd)pyrene	ug/l	0.2	-	ND (0.049)	ND (0.049)	ND (0.049)	ND (0.049)	ND (0.050)	ND (0.049)	ND (0.053)
1,4-Dioxane	ug/l	0.4	-	ND (0.049)	ND (0.049)	ND (0.049)	ND (0.049)	ND (0.050)	ND (0.049)	ND (0.053)
MS Semi-volatile TIC										
Total TIC, Semi-Volatile	ug/l	-	-	0	0	38.2 J	0	0	50.6 J	0
Metals Analysis										
Aluminum	ug/l	200	_	ND (200)	4270	ND (200)	212	ND (200)	201	ND (200)
Arsenic	ug/l	3	-	ND (3.0)	3	29.3	28.2	ND (3.0)	19.2	12.6
Barium	ug/l	6000	-	ND (200)	ND (200)	ND (200)	421	ND (200)	ND (200)	ND (200)
Cadmium	ug/l	4	_	ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)
Chromium	ug/l	70	-	ND (10)	11.6	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Iron	ug/l	300	-	ND (100)	6770	19400	24700	230	4970	16400
Lead	ug/l	5	-	ND (3.0)	10.7	ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)
Manganese	ug/l	50	-	ND (15)	37	257	596	36	49.2	285
Mercury	ug/l	2	-	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.60)	ND (0.20)
Selenium	ug/l	40	-	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Silver	ug/l	40	-	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Sodium	ug/l	50000	-	ND (10000)	44000	153000	118000	ND (10000)	49900	40900
General Chemistry										
Cyanide	mg/l	0.1	-	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrogen, Ammonia	mg/l	3	-	ND (0.20)	ND (0.20)	1.8	2	ND (0.20)	0.75	0.6
Phenois	mg/l	-	-	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	0.42

Footnotes:

^a Associated CCV outside of control limits high, sample was ND.

Associated CCV outside of control limits low. Low-level verification was analyzed to demonstrate system suitability to detect affected analytes. Sample was ND.

^c This compound is outside the control limits biased high in the associated BS and BSD.

Table 8 Hess Corporation Former Port Reading Terminal

750 Cliff Road, Port Reading, New Jersey No 1 Landfarm Leachate Analytical Results - January 2021

Client Sample ID:			L1-LEACHATE
Lab Sample ID:		NJ Groundwater Criteria	JD18999-1
Date Sampled:			12/11/2020
Matrix:			Water
MS Volatiles (EPA 624.1)			
D	1/1	1	ND (0.04)
Benzene Bromodichloromethane	ug/l	<u> </u>	ND (0.34)
	ug/l	4	ND (0.35)
Bromoform Bromomethane	ug/l	10	ND (0.60)
Carbon tetrachloride	ug/l	10	ND (0.87)
Carbon tetrachionde Chlorobenzene	ug/l	50	ND (0.55)
•	ug/l	50	ND (0.33)
Chloroethane	ug/l	•	ND (0.54)
2-Chloroethyl vinyl ether Chloroform	ug/l	- 70	ND (2.5)
Chlorotorm Chloromethane	ug/l	- 70	ND (0.50)
Chloromethane Dibromochloromethane	ug/l	<u>-</u> 1	ND (0.78)
1.2-Dichlorobenzene	ug/l ug/l	600	ND (0.43) ND (0.30)
1.3-Dichlorobenzene		600	ND (0.30) ND (0.66)
1.4-Dichlorobenzene	ug/l	75	. ,
Dichlorodifluoromethane	ug/l ug/l	1000	ND (0.63) ND (1.4)
1.1-Dichloroethane		50	ND (1.4) ND (0.42)
1.2-Dichloroethane	ug/l ug/l	2	ND (0.42) ND (0.39)
1,2-Dichloroethane		1	ND (0.39) ND (0.59)
cis-1,2-Dichloroethene	ug/l ug/l	70	ND (0.59)
trans-1.2-Dichloroethene	ug/l	100	ND (0.51) ND (0.46)
1,2-Dichloropropane	ug/l	1	ND (0.46) ND (0.42)
cis-1,3-Dichloropropene	ug/l	-	ND (0.42) ND (0.47)
trans-1,3-Dichloropropene	ug/l		ND (0.47)
Ethylbenzene	ug/l	700	ND (0.30)
Methyl Tert Butyl Ether	ug/l	700	0.56 J
Methylene chloride	ug/l	3	ND (0.41)
Tertiary Butyl Alcohol	ug/l	100	ND (5.8)
1.1.2.2-Tetrachloroethane	ug/l	100	ND (0.32)
Tetrachloroethene	ug/l	1	ND (0.41)
Toluene	ug/l	600	ND (0.41)
1.1.1-Trichloroethane	ug/l	30	ND (0.54)
1.1.2-Trichloroethane	ug/l	3	ND (0.54) ND (0.41)
Trichloroethene	ug/l	3 1	ND (0.41)
		· · · · · · · · · · · · · · · · · · ·	` '
Trichlorofluoromethane	ug/l	2000	ND (0.33)
Vinyl chloride	ug/l	1	ND (0.79)
Xylenes (total)	ug/l	1000	ND (0.35)
MS Volatile TIC			
vio voiatile HC			
Total TIC, Volatile	ug/l	-	9.7 J
i otal i i o, volatile	ug/i		3.1 J

Hess Corporation Former Port Reading Terminal 750 Cliff Road, Port Reading, New Jersey

No 1 Landfarm Leachate Analytical Results - January 2021

Client Sample ID: Lab Sample ID:			L1-LEACHATE JD18999-1
Date Sample ID:		NJ Groundwater Criteria	12/11/2020
Matrix:			Water
HIGH IA.			Water
MS Semi-volatiles (EPA 625.1	l)		
2 Chlavanhanal	/1	40	ND (0.00)
2-Chlorophenol 4-Chloro-3-methyl phenol	ug/l ug/l	40	ND (0.82) ND (0.89)
2,4-Dichlorophenol	ug/l	20	ND (0.89)
2,4-Dimethylphenol	ug/l	100	ND (2.4)
2,4-Dinitrophenol	ug/l	40	ND (1.6)
4,6-Dinitro-o-cresol	ug/l	0.7	ND (1.3)
2-Nitrophenol	ug/l	-	ND (0.96)
4-Nitrophenol	ug/l	-	ND (1.2)
Pentachlorophenol	ug/l	0.3	ND (1.4)
Phenol	ug/l	2000	ND (0.39) ^a
2,4,5-Trichlorophenol	ug/l	700 20	ND (1.3)
2,4,6-Trichlorophenol Acenaphthene	ug/l ug/l	400	ND (0.92) ND (0.19)
Acenaphthylene	ug/l	-	ND (0.19) ND (0.14)
Anthracene	ug/l	2000	ND (0.14)
Benzidine	ug/l	20	ND (0.90) b
Benzo(a)anthracene	ug/l	0.1	ND (0.20)
Benzo(a)pyrene	ug/l	0.1	ND (0.21)
Benzo(b)fluoranthene	ug/l	0.2	ND (0.21)
Benzo(g,h,i)perylene	ug/l	-	ND (0.34)
Benzo(k)fluoranthene	ug/l	0.5	ND (0.21)
4-Bromophenyl phenyl ether	ug/l	-	ND (0.40)
Butyl benzyl phthalate	ug/l	100	1.0 J
2-Chloronaphthalene	ug/l	600	ND (0.24)
4-Chloroaniline	ug/l	30 5	ND (0.34)
Chrysene bis(2-Chloroethoxy)methane	ug/l ug/l	-	ND (0.18) ND (0.28)
bis(2-Chloroethyl)ether	ug/l	7	ND (0.25)
2,2'-Oxybis(1-chloropropane)	ug/l	300	ND (0.40)
4-Chlorophenyl phenyl ether	ug/l	-	ND (0.37)
1,2-Dichlorobenzene	ug/l	600	ND (0.17)
1,2-Diphenylhydrazine	ug/l	20	ND (0.19)
1,3-Dichlorobenzene	ug/l	600	ND (0.19)
1,4-Dichlorobenzene	ug/l	75	ND (0.17)
2,4-Dinitrotoluene	ug/l	-	ND (0.55)
2,6-Dinitrotoluene	ug/l	- 20	ND (0.48)
3,3'-Dichlorobenzidine Dibenzo(a,h)anthracene	ug/l ug/l	30 0.3	ND (0.51) ND (0.33)
Di-n-butyl phthalate	ug/l	700	ND (0.50)
Di-n-octyl phthalate	ug/l	100	0.92 J
Diethyl phthalate	ug/l	6000	ND (0.26)
Dimethyl phthalate	ug/l	-	ND (0.22)
bis(2-Ethylhexyl)phthalate	ug/l	3	2.3
Fluoranthene	ug/l	300	ND (0.17)
Fluorene	ug/l	300	ND (0.17)
Hexachlorobenzene	ug/l	0.02	ND (0.33)
Hexachlorobutadiene	ug/l	1	ND (0.49)
Hexachlorocyclopentadiene	ug/l	40	ND (2.8)
Hexachloroethane	ug/l	7 0.2	ND (0.39) ND (0.33)
Indeno(1,2,3-cd)pyrene	ug/l	40	ND (0.33)
sophorone Naphthalene	ug/l ug/l	300	ND (0.28) - ND (0.23)
Nitrobenzene	ug/l	6	ND (0.23) ND (0.64)
n-Nitrosodimethylamine	ug/l	0.8	ND (0.82)
N-Nitroso-di-n-propylamine	ug/l	10	ND (0.48) ^a
N-Nitrosodi-n-butylamine	ug/l	-	ND (0.40)
N-Nitrosodiethylamine	ug/l	-	ND (0.24)
N-Nitrosodiphenylamine	ug/l	10	ND (0.22)
N-Nitrosopyrrolidine	ug/l	-	ND (0.73) a
Pentachlorobenzene	ug/l	-	ND (0.24)
Phenanthrene	ug/l	-	ND (0.18)
Pyrene	ug/l	200	ND (0.22)
1,2,4,5-Tetrachlorobenzene	ug/l	-	ND (0.37)
1,2,4-Trichlorobenzene	ug/l	9	ND (0.25)
2,3,7,8-TCDD	ug/l	0.00001	ND (5.0)

Hess Corporation Former Port Reading Terminal 750 Cliff Road, Port Reading, New Jersey

No 1 Landfarm Leachate Analytical Results - January 2021

Client Sample ID:			L1-LEACHATE
Lab Sample ID:		NJ Groundwater Criteria	JD18999-1
Date Sampled:		No Groundwater Criteria	12/11/2020
Matrix:			Water
GC/LC Semi-volatiles (EPA	CUO 3/		
GC/LC Sellii-voidilles (EPA)	000.3)		
Aldrin	ug/l	0.04	ND (0.0037)
alpha-BHC	ug/l	0.02	ND (0.0059)
beta-BHC	ug/l	0.04	ND (0.0066)
delta-BHC	ug/l	-	ND (0.0056)
gamma-BHC (Lindane)	ug/l	0.03	ND (0.0047)
Chlordane	ug/l	0.5	ND (0.23)
Dieldrin	ug/l	0.03	ND (0.0032)
4,4'-DDD	ug/l	0.1	ND (0.0056)
4,4'-DDE	ug/l	0.1	ND (0.0032)
4,4'-DDT	ug/l	0.1	ND (0.0060)
Endrin	ug/l	2	ND (0.0047)
Endosulfan sulfate	ug/l	40	ND (0.0048)
Endrin aldehyde	ug/l	-	ND (0.0064)
Endosulfan-l	ug/l	40	ND (0.0038)
Endosulfan-II	ug/l	40	ND (0.0044)
Heptachlor	ug/l	0.05	ND (0.0044)
Heptachlor epoxide	ug/l	0.2	ND (0.0033)
Methoxychlor	ug/l	40	ND (0.0060)
Toxaphene	ug/l	2	ND (0.079)
Aroclor 1016	ug/l	0.5	ND (0.13)
Aroclor 1221	ug/l	0.5	ND (0.39)
Aroclor 1232	ug/l	0.5	ND (0.11)
Aroclor 1242	ug/l	0.5	ND (0.15)
Aroclor 1248	ug/l	0.5	ND (0.076)
		0.5	ND (0.44)
Aroclor 1254 Aroclor 1260	ug/l ug/l	0.5 0.5	ND (0.11) ND (0.11)
Aroclor 1254 Aroclor 1260 GC/LC Semi-volatiles (SW84	ug/l ug/l	0.5	
Aroclor 1254 Aroclor 1260 GC/LC Semi-volatiles (SW84 Mirex	ug/l ug/l 46 8081B	0.5	ND (0.11)
Aroclor 1254 Aroclor 1260 GC/LC Semi-volatiles (SW84 Mirex	ug/l ug/l 46 8081B	0.5	ND (0.11)
Aroclor 1254 Aroclor 1260 GC/LC Semi-volatiles (SW84 Mirex GC/LC Semi-volatiles (SW84	ug/l ug/l 46 8081B	0.5	ND (0.11)
Aroclor 1254 Aroclor 1260 GC/LC Semi-volatiles (SW84 Mirex GC/LC Semi-volatiles (SW84 Chlorpyrifos	ug/l ug/l 46 8081B ug/l	0.5	ND (0.11)
Aroclor 1254 Aroclor 1260 GC/LC Semi-volatiles (SW84 Mirex GC/LC Semi-volatiles (SW84 Chlorpyrifos Demeton	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	0.5	ND (0.11) ND (0.0023) ND (0.55)
Aroclor 1254 Aroclor 1260 GC/LC Semi-volatiles (SW84 Mirex GC/LC Semi-volatiles (SW84 Chlorpyrifos Demeton Ethyl Parathion	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	0.5	ND (0.11) ND (0.0023) ND (0.55) ND (0.76)
Aroclor 1254 Aroclor 1260 GC/LC Semi-volatiles (SW84 Mirex GC/LC Semi-volatiles (SW84 Chlorpyrifos Demeton Ethyl Parathion Malathion	ug/l ug/l 46 8081B ug/l 46 8141B ug/l ug/l ug/l ug/l	0.5) 0.1) 20 1 4	ND (0.11) ND (0.0023) ND (0.55) ND (0.76) ND (0.53)
Aroclor 1254 Aroclor 1260 GC/LC Semi-volatiles (SW84) Mirex GC/LC Semi-volatiles (SW84) Chlorpyrifos Demeton Ethyl Parathion Malathion Methyl Azinphos (Guthion)	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	0.5) 0.1) 20 1 4	ND (0.0023) ND (0.0023) ND (0.55) ND (0.76) ND (0.53) ND (0.41)
Aroclor 1254 Aroclor 1260 GC/LC Semi-volatiles (SW84) Mirex GC/LC Semi-volatiles (SW84) Chlorpyrifos Demeton Ethyl Parathion Malathion Methyl Azinphos (Guthion) Metals Analysis	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	0.5) 0.1) 20 1 4	ND (0.11) ND (0.0023) ND (0.55) ND (0.76) ND (0.53) ND (0.41) ND (0.37) °
Aroclor 1254 Aroclor 1260 GC/LC Semi-volatiles (SW84) Mirex GC/LC Semi-volatiles (SW84) Chlorpyrifos Demeton Ethyl Parathion Malathion Methyl Azinphos (Guthion) Metals Analysis Antimony	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	0.5) 0.1) 20 1 4 100 -	ND (0.11) ND (0.0023) ND (0.55) ND (0.76) ND (0.53) ND (0.41) ND (0.37) °
Aroclor 1254 Aroclor 1260 GC/LC Semi-volatiles (SW84 Mirex GC/LC Semi-volatiles (SW84 Chlorpyrifos Demeton Ethyl Parathion Malathion Methyl Azinphos (Guthion) Metals Analysis Antimony Arsenic	ug/l ug/l l ug/l l ug/l l ug/l l ug/l l ug/l ug/	0.5) 0.1) 20 1 4 100 - 6 3	ND (0.11) ND (0.0023) ND (0.55) ND (0.76) ND (0.53) ND (0.41) ND (0.37) ° <6.0 2.9
Aroclor 1254 Aroclor 1260 GC/LC Semi-volatiles (SW84 Mirex GC/LC Semi-volatiles (SW84 Chlorpyrifos Demeton Ethyl Parathion Malathion Methyl Azinphos (Guthion) Metals Analysis Antimony Arsenic	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	0.5) 0.1) 20 1 4 100 - 6 3 1	ND (0.11) ND (0.0023) ND (0.55) ND (0.76) ND (0.53) ND (0.41) ND (0.37) ° < 6.0 2.9 <1.0
Aroclor 1254 Aroclor 1260 GC/LC Semi-volatiles (SW84) Mirex GC/LC Semi-volatiles (SW84) Chlorpyrifos Demeton Ethyl Parathion Matathion Methyl Azinphos (Guthion) Metals Analysis Antimony Arsenic Beryllium Cadmium	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	0.5) 20 1 4 100 - 6 3 1 4 4	ND (0.11) ND (0.0023) ND (0.55) ND (0.56) ND (0.53) ND (0.41) ND (0.37) ° <6.0 2.9 <1.0 <3.0
Aroclor 1254 Aroclor 1260 GC/LC Semi-volatiles (SW84) Mirex GC/LC Semi-volatiles (SW84) Chlorpyrifos Demeton Ethyl Parathion Methyl Azinphos (Guthion) Metals Analysis Antimony Arsenic Beryllium Cadmium Chromium	ug/l ug/l ug/l	0.5) 20 1 4 100 - 6 3 1 4 70	ND (0.11) ND (0.0023) ND (0.55) ND (0.76) ND (0.53) ND (0.41) ND (0.37) ° <6.0 2.9 <1.0 <3.0 <10
Aroclor 1254 Aroclor 1260 GC/LC Semi-volatiles (SW84) Mirex GC/LC Semi-volatiles (SW84) Chlorpyrifos Demeton Ethyl Parathion Malathion Methyl Azinphos (Guthion) Metals Analysis Antimony Arsenic Braylium Chromium Copper	ug/l ug/l ug/l ug/l ug/l ug/l u	0.5) 20 1 4 100 - 6 3 1 4 70 1300	ND (0.11) ND (0.0023) ND (0.55) ND (0.76) ND (0.53) ND (0.41) ND (0.37) ° <6.0 2.9 <1.0 <3.0 <10 14.6
Aroclor 1254 Aroclor 1260 GC/LC Semi-volatiles (SW84 Mirex GC/LC Semi-volatiles (SW84 Chlorpyrifos Demeton Ethyl Parathion Malathion Methyl Azinphos (Guthion) Metals Analysis Antimony Arsenic Beryllium Chromium Copper Lead	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	0.5) 20 1 4 100 - 6 3 1 4 70 1300 5	ND (0.0023) ND (0.0023) ND (0.0023) ND (0.76) ND (0.53) ND (0.41) ND (0.37) ° <6.0 2.9 <1.0 <3.0 <10 14.6 3.2
Aroclor 1254 Aroclor 1260 GC/LC Semi-volatiles (SW84 Mirex GC/LC Semi-volatiles (SW84 Chlorpyrifos Demeton Ethyl Parathion Malathion Methyl Azinphos (Guthion) Metals Analysis Antimony Arsenic Beryllium Cadmium Chromium Copper Lead Mercury	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	0.5) 0.1) 20 1 4 100 6 3 1 4 70 1300 5 2	ND (0.11) ND (0.0023) ND (0.0023) ND (0.76) ND (0.76) ND (0.53) ND (0.41) ND (0.37) ° <6.0 2.9 <1.0 <3.0 <10 14.6 3.2 <0.20
Aroclor 1254 Aroclor 1260 GC/LC Semi-volatiles (SW84) Mirex GC/LC Semi-volatiles (SW84) Chlorpyrifos Demeton Ethyl Parathion Malathion Methyl Azinphos (Guthion) Metals Analysis Antimony Arsenic Beryllium Cadmium Chromium Copper Lead Mercury Nickel	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug	0.5) 20 1 4 100 6 3 1 4 70 1300 5 2 100	ND (0.11) ND (0.0023) ND (0.0023) ND (0.76) ND (0.76) ND (0.53) ND (0.41) ND (0.37) ° <6.0 2.9 <1.0 <3.0 <1.0 <3.0 <1.0 <2.0 <2.0 <2.0 <2.0 <2.20 <2.52
Aroclor 1254 Aroclor 1260 GC/LC Semi-volatiles (SW84) Mirex GC/LC Semi-volatiles (SW84) Chlorpyrifos Demeton Ethyl Parathion Malathion Methyl Azinphos (Guthion) Metals Analysis Antimony Arsenic Beryllium Cadmium Chromium Copper Lead Mercury Nickel Selenium	ug/l ug/l ug/l ug/l ug/l ug/l u	0.5) 20 1 4 100 6 3 1 4 70 1300 5 2 100 40	ND (0.11) ND (0.0023) ND (0.0023) ND (0.55) ND (0.76) ND (0.53) ND (0.41) ND (0.37) ° <6.0 2.9 <1.0 <3.0 <10 14.6 3.2 <0.20 252 <10
Aroclor 1254 Aroclor 1260 GC/LC Semi-volatiles (SW84) Mirex GC/LC Semi-volatiles (SW84) Chlorpyrifos Demeton Ethyl Parathion Methyl Azinphos (Guthion) Metals Analysis Antimony Arsenic Beryllium Cadmium Chromium Copper Lead Mercury Nickel Selenium Silver	ug/l ug/l ug/l ug/l ug/l ug/l u	0.5) 20 1 4 100 6 3 1 4 70 1300 5 2 100 40 40	ND (0.11) ND (0.0023) ND (0.55) ND (0.55) ND (0.76) ND (0.53) ND (0.41) ND (0.37) ° < 6.0 2.9 < 1.0 < 3.0 < 10 14.6 3.2 < 0.20 252 < 10
Aroclor 1254 Aroclor 1260 GC/LC Semi-volatiles (SW84 Mirex GC/LC Semi-volatiles (SW84 Chlorpyrifos Demeton Ethyl Parathion Malathion Methyl Azinphos (Guthion) Metals Analysis Antimony Arsenic Beryllium Chromium Copper Lead Mercury Nickel Selenium Silver Thallium	ug/l	0.5) 20 1 4 100 6 3 1 4 70 1300 5 2 100 40 40 40 2	ND (0.11) ND (0.0023) ND (0.55) ND (0.76) ND (0.53) ND (0.41) ND (0.37) ° <6.0 2.9 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0
Aroclor 1254 Aroclor 1260 GC/LC Semi-volatiles (SW84 Mirex GC/LC Semi-volatiles (SW84 Chlorpyrifos Demeton Ethyl Parathion Malathion Methyl Azinphos (Guthion) Metals Analysis Antimony Arsenic Beryllium Chromium Copper Lead Mercury Nickel Selenium Silver Thallium	ug/l ug/l ug/l ug/l ug/l ug/l u	0.5) 20 1 4 100 6 3 1 4 70 1300 5 2 100 40 40	ND (0.11) ND (0.0023) ND (0.55) ND (0.55) ND (0.76) ND (0.53) ND (0.41) ND (0.37) ° < 6.0 2.9 < 1.0 < 3.0 < 10 14.6 3.2 < 0.20 252 < 10
Aroclor 1254 Aroclor 1260 GC/LC Semi-volatiles (SW84) Mirex GC/LC Semi-volatiles (SW84) Chlorpyrifos Demeton Ethyl Parathion Malathion Methyl Azinphos (Guthion) Metals Analysis Antimony Arsenic Beryllium Cadmium Chromium Chromium Chromium Chopper Lead Mercury Nickel Selenium Silver Thallium Zinc	ug/l	0.5) 20 1 4 100 6 3 1 4 70 1300 5 2 100 40 40 40 2	ND (0.11) ND (0.0023) ND (0.55) ND (0.76) ND (0.53) ND (0.41) ND (0.37) ° <6.0 2.9 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0
Aroclor 1254 Aroclor 1260 GC/LC Semi-volatiles (SW84) Mirex GC/LC Semi-volatiles (SW84) Chlorpyrifos Demeton Ethyl Parathion Matathion Methyl Azinphos (Guthion) Metals Analysis Antimony Arsenic Beryllium Cadmium Chromium Chromium Copper Lead Mercury Nickel Selenium Silver Thallium Zinc General Chemistry	ug/l ug/l ug/l ug/l ug/l ug/l ug/l ug/l	0.5) 20 1 4 100 6 3 1 4 70 1300 5 2 100 40 40 40 2 20000	ND (0.11) ND (0.0023) ND (0.0023) ND (0.55) ND (0.56) ND (0.57) ND (0.53) ND (0.31) ND (0.37) ° <6.0 2.9 <1.0 <3.0 <10 14.6 3.2 <0.20 252 <10 <10 <10 <5.50 365
Aroclor 1254 Aroclor 1254 Aroclor 1260 GC/LC Semi-volatiles (SW84 Mirex GC/LC Semi-volatiles (SW84 Chlorpyrifos Demeton Ethyl Parathion Malathion Methyl Azinphos (Guthion) Metals Analysis Antimony Arsenic Beryllium Cadmium Cohromium Copper Lead Mercury Nickel Selenium Silver Thallium Zinc General Chemistry Chloride Cyanide	ug/l	0.5) 20 1 4 100 6 3 1 4 70 1300 5 2 100 40 40 40 2	ND (0.11) ND (0.0023) ND (0.55) ND (0.76) ND (0.53) ND (0.41) ND (0.37) ° <6.0 2.9 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0

- Footnotes:
 a Associated CCV outside of control limits high, sample was ND.
 b This compound in BS,BSD is outside in house QC limits bias low.
 c Associated BS outside of control limits high, sample was ND. Associated CCV outside of control limits high, sample was ND.

APPENDIX A Low Flow Groundwater Sampling Sheets

Earth Systems

NJDEP Certification No. 13040

	54	Date: 6 7 20ob #/	Name: PR	Weather: Su	N 70 Personnel: KJ	-	
Eaurpment:	HORIBA	U52		Serial Number: 43	606		
					pH		
		Zero Pt	Lot / Exp Date	Span Pt	Lot / Exp Date	Initial Check (must be within +/-	Lot / Exp Date
Time	Temperature	(pH 4)	c-1:1-	(pH 10)		0.1 units or need to recalibrate)	
			5/6/31	(pri zo)	15/9/21	(pH 7 - acceptable range 6.9-7.1)	10/31/21
0.00	16 10	Initial Reading	Adjusted	Initial Reading	Adjusted	(Start Star	Recalibrate (Y/N)*
800	18 19	4.01	4.00	10.22	10 00	7 03	N
		pH	3 Hour Check (*2-pc	int calibration only nee	ds to be conducted if check value is ou	ıt of range)	
		Zero Pt *	Lot / Exp Date	Span Pt *	Lot / Exp Date	Check (must be within +/-0.2 units	Lot / Exp Date
Time (3 hr		(pH 4)		(pH 10)		or need to recalibrate)	
check)	Temperature					(pH 7 - acceptable range 6.8-7.2)	
1100	25.22	4.04	4.00	10.01	10.00	7.00	ΔI
				Conductivity			
	Zero	Lot / Exp Date	Span	Lot / Exp Date	Check (must be within +/-1% or	Lot / Exp Date	
Time	(Ambient Air)		(1.413 ms/cm)	1-1-	need to recalibrate)		
4 41145		_		03/31/21	(use 1.413 ms/cm - acceptable	named .	
	Initial Reading	Adjusted	Initial Reading	Admetor	range 1.398 - 1.427)		
805		0.003	6.006	Adjusted	Check Value	Recalibrate (Y/N)	
0		0.002	0.000	1.14	1.39	N	
	Zero	1 - 6 1 m - m - s		Turbidity			
	eero.	Lot / Exp Date	Span	Lot / Exp Date	Check - must be within +/- 10% or	Lot / Exp Date	
Time		MANAGEMANNIA.	(100 NTU)	03/2/2	need to recalibrate		
				07/22/21	(use 100 NTU - acceptable range 90		
	Initial Reading	Adjusted	Initial Reading	Adjusted	110 NTU) Check Value	Recalibrate (Y/N)	
810	00	0 0	901	100	180	Necaminate (1/14)	
			7.0		700		
			Dissolved Oxy	PLANS.		40	
	_	Lot / Exp Date		Lot / Exp Date	Check - reading must be 0.3mg/L or		
	Zero		Air Span	-or / wh rate	less		
Time	(0% Solution)	11/24/20	(100%)				
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	(0% Solution)		
815	00	0.0	10377	Necalibrate (17/14)	Check Value	-	
			12277		0.0	-	



NJDEP Certification No. 13040

(auinment:	1-52			471	176 Sur Personnell ALS		
daihiusiif:				Serial Number:			
		Zero Pt	Park / Para Barks		Н		
Time	Temperature	(pH 4)	Lot / Exp Date	Span Pt (pH 10)	Cot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted	(pH 7 - acceptable range 6.9-7.1)	Recalibrate (Y/N)
7.57		3.97	400	(0.78	10.00	7.03	reconstate (1)14)
		Zero Pt *	Lot / Exp Date	Span Pt *	ds to be conducted if check value is ou Lot / Exp Date		1-4 / 5 5-4-
Time (3 hr	Tomanantuna	(pH 4)	ave, and bace	(pH 10)	cot / exp Date	Check (must be within +/-0.2 units or need to recalibrate)	Lot / Exp Date
007	Temperature	108	17 .70	75 \15	<i>[</i> 2	(pH 7 - acceptable range 6.8-7.2)	
00		100	1.00	10.00	(3.00	100	N
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	3/31/2/	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date	
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	
500	4.400	0.60	156	1.71	1.47	N	
	Zero	Lot / Exp Date	Span	Turbidity Lot / Exp Date	Check - must be within +/- 10% or	1 1 / 5 - 5 - 1	
Time		and with one	(100 NTU)	7/22/21	need to recalibrate (use 100 NTU - acceptable range 90		
0	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	
8,03	6. 3	40	77.2	100	(o d	N	
	1	Lab / Pour Bar	Dissolved Oxy		1		
Time	Zero	Lot / Exp Date	Air Span	Lot / Exp Date	Check - reading must be 0.3mg/L or less		
111111111111111111111111111111111111111	(0% Solution)	.40 No	(100%)	,	(0% Solution)		
80	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value		
VIL	0,1		100	do /	[) / [



SITE:			Par	+ Recdi				CO	NSULTING	FIRM:		EARTH S	YSTEMS			
DATE:	-			16/202				FI	ELD PERSO	NNEL:		AE				
WEATHER				68°F	0				ERTIFICAT			130				
	-			60										_		
MONITOR			91	LN-1	3.0	WELL DE					SCRI	ENED/OPEN	INTERVAL:		8-18	
			_ 3/ 6	0000 31	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	TICAL DIAME	7	- Inches								
PID/FID RI	EADII	NGS	(ppm):	BACKGRO	JND:	0	. 0	PUN	IP INTAKE	DEPTH: 10.5	_ ft below T	oc				
					OUTER CAP:	B.		DEP	TAW OT HT	ER BEFORE P	UMP INSTAL	LATION:	.24 ft belo	w TOC)
				BENEATH	INNER CAP:	6	8									
	ş	Ş	P	Н		PECIFIC	1	REDOX	1	SOLVED		BIDITY	TEMPE	RATURE	PUMPING	DEPTH TO
TIME	12	APE.		units) 600H+B)	(mS/cm) (EPA 120.1)	PO	TENTIAL (mv)	(mg/l)	(YGEN (SM 4500OG)		TU) 180.1)		2550)	(ml/min)	WATER (ft below TOC)
	2	SAI	READING	CHANGE.	READING	CHANGE*	READING	CHANGE*	READING	CHANGE'	READING	CHANGE*	4	CHANGE.	(minimiz)	(It below TOC)
940	Y		6.27	NA	1.37	NA	-76	NA	7.36	NA	62.9	NA	20.93	NA	302	5,40
945	X		6.31	0.04	1.36	10%	-90	14	6.56	10%	71.9	140%	21.51	3%	İ	5.45
950	×		6.31	_	1.36	-	- 94	4	6.07	70%	62.1	13%	21.77	10/0		5.50
955	×	Ш	6.32	0.01	1.36	-	-95	t	5.60	84%	40.2	350%	22.02	10/3		3.57
laso	<u> </u>	Ш	6.32	_	1.36	-	- 95	-	5.24	6%	31.6	21%	22.52	20%		5.67
1005	×		6.32	-	1.36	•	-96	1	4.96	543	34.3	SOL	22.48	100		
1010	1		6.33	0.01	1.36	4-	-98	2	4.54	80%	37.3	AUTO	22.60	190		
1015	۲		6.33	-	1.36	_	-99	(4.28	600	41.0	100%	22.47	10%		
Jazo		×	6.33	-	1.36	-	-99	-	4.14	3%	44.1	70%	22.72	10%	1	T
			-1													
COMMEN.	TS:															

^{*}INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;

^{1 10} mv for Redox Potential; and 1 10% for Dissolved Oxygen and Turbidity



SHEET OF

SITE:		Form	ner Hess	- Port Re	eading		СО	NSULTING I	FIRM:		EARTH S	YSTEMS			
DATE:	10) 6/d	6				FII	ELD PERSON	INEL:		AE				
WEATHER:		680	Sino	00			C	ERTIFICATI	ON #:		130	40			
MONITOR 1			LN - 2 2600007	562	WELL DE	A.O.	13 -7 5 Inches			SCRE	ENED/OPEN	INTERVAL:		. 7 - 13" .75 - 13,7!	
PID/FID RE	ADINGS	i (ppm):		UND: OUTER CAP: INNER CAP:	6.	6		P INTAKE I	DEPTH: 9.1	It below TO	- 1	98 tt belo	w TOC		
TIME	PURGING	(pH	pH units) 500+-8		PECIFIC DUCTIVITY	PO"	EDOX FENTIAL (mv)		YGEN	(10)	(DITY (U)	(degr	RATURE ees C) 2550)	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
	Da SAR	READING	CHANGE*	READING	CHANGE-	READING	CHANGE'	READING	CHANGE'	READING	CHANGE'	READING	CHANGE'	tensivalenesi	(it below ioc;
13.45	X	(a 8 3	NA	0.705	NA	-113	NA	2.70	NA	9.4	NA	22.92	NA	289	6.05
13:50	X	6.85	0.02	0.928	2.5%	-120	-7	180	33 %	8.4	10.6%	22.89	6.17	1	6.09
13:55	X	6.18	0.03	6914	0.4%	427	- 7	1,46	17%	18.7	10 m/.	22.85	6.1%		6.0
4,60	X	6.89	0.01	6.9/6	0.8%	-/31	- 21	1.32	9.5%	344	86%	22.90	0.2%	1	
1-1:05	Х	6.90	0.01	0906	1.0%	434	-3	1.22	7.5%	35.4	291	2290		1	
14:10	X	6.90	000	0897	6.2.1	-136	-2	1.11	7.0%	33.1	7.0%	22.97	0.3%	1	
14:15	X	6.91	001	2.89 1	0.6%	-137	-1	108	2.7%	36.3	5.6%	22.78	0.4%		
14.00	X	6.9 d	6.01	0.885	0.5%	-138	-1	1.63	3.7%	27.7	2.8	23.05	034	t	, A
	\vdash							-			-	-	-		
COMMENT	5:														

^{&#}x27;INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;

^{2 10} my for Redox Potential; and 2 10% for Dissolved Oxygen and Turbidity



SHEET OF 7

SITE:		Form	er Hess	- Port R	anding		CO	INSULTING	CIDM.		EARTH S	Verene			
DATE:		10		20	caunig			ELD PERSO		V	. <u></u>	1016/10			
WEATHER:		Sir	MU	10	COF			ERTIFICATI			پ د. 130	140			
MONITOR			LN - 3		WELL DE	PTH: 14.	3-11,75			SCRE	ENED/OPEN	INTERVAL:		53 113	
WELL PER	ИIT #:	-	26000075	63	WELL DIAME	TER: 4"	Inches		2.5				***********	5.75 - 11.	75
PID/FID RE	ADINGS	i (nn-)	SACVODO	thin .					7.0	-					
TONIO NE	HUING:	(ppm):	BACKGROU	JND: DUTER CAP:		. 0	PUN	AP INTAKE I	DEPTH:	ft below TO	c ~	126			
				NNER CAP:	_0	2	DEP	TAW OT HT	ER BEFORE P	UMP INSTALL	C HOITA	of below	w TOC		
	1	10	H	T SI	PECIFIC	1	REDOX	191.00	to do a la deservación						
TIME	PURGING	(pH s		1	DUCTIVITY		TENTIAL		SOLVED YGEN	TURB		TEMPER (degre		PUMPING	DEPTH TO WATER
7 71(1.22	PUR	(5M)(6	1	(mS/cm			(mv)	(mg/l)	(SM 45000G)	(EPA)	· ·	(SM)		(ml/min)	(ft below TOC)
111.6	X	READING	CHANGE.	READING	CHANGE'	READING	CHANGE'	READING	CHANGE:	READING	CHANGE"	READING	CHANGE"		
1400	1/7	10.07	NA	0.708	NA	1-74	AA	2.15	NA.	142	NA	2367	NA	300	573'
1403	X	(0.7)	0.16	0.903	0.5%	-61	/3	12.12	0.91	78.5	45/	2355	0.5%	200	C. 88
1410	X	6.69	0.02	0.906	0.37	-66		7/7	0.0%	505	35%	23.57	0.2%	300	Pani
1413	X	6.69	000	0909	0.3%	-22	11	717	00%	153	9 5	030	0.3%	300	5 661
1470	Y	6 69	0.00	19/F	7. 1.7	-86		213	0.0%	50.0	7.37	77/1	0-3%	200	0.00
1475	(X)	1.1.9	0.00	912	0.61	-39	1 7	2/2	007.	30.3	d.//.	(2.6)	0.61.	1200	7.00,
111 23		6.67	10.00	0.113	0.27	0.7	3	6.10	0-01-	088	9.11.	C3.66	0.2%	900	7.80.
1430	1	10.40	0.01	0.716	0.31-	796	1	12-12	0.01	54.3	7-61	23.+6	0.47	300	2.80,
1435	I X	2.40	0.00	0.915	0.17.	-100	_ 4	12.12	0.0%	52.9	2.5%	2372	0.7.7	300	4.80
COMMENT	S:			1											

^{&#}x27;INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;

^{± 10} mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity



SITE:		Form	ner Hess	- Port R	eading		C	ONSULTING	CIDIA.						
DATE:		107	101-	20	odding			ELO PERSO		- 1	EARTH S	SYSTEMS			
WEATHER:		SUF	MAIL	1 1	C 04			CERTIFICATI)				
			0100	1	2->			wertificati	UN #:		130	040			
MONITOR		:	LN-4		WELL DE	PTH: 14	16.51			2025					
WELL PER	AIT#:		260000813	31	WELL DIAM					SCRE	ENED/OPEN	INTERVAL:		4-14-	
														5.5-16.5	
PID/FID RE	ADING:	S (ppm):	BACKGROU	UND:	(1)	0	PUI	MP INTAKE (ертн: 8.0	ft below TO)C				
ŀ			BENEATH (OUTER CAP:	8	3				UMP INSTALI	the same of	40.	Neversion		
			BENEATH I	INNER CAP:	0							- Viv galo	WIOL		
	0 0	P	H	Si	PECIFIC	T R	REDOX	Diss	IOLVED	TURB	INITH	T			
TIME	PURGING	1	units)	CONI	DUCTIVITY	PO	PENTIAL	1	YGEN	(NT		TEMPEI (degre		PUMPING	DEPTH TO WATER
	PUP	15M 45	500H+B	(mS/cm		-	(mv)	(mg/l)	(SM 45000G)	IEPA 1	80 1,	(SM)		(ml/min)	(ft below TOC)
11 57	7		CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE.	READING	CHANGE.	READING	CHANGE.		
11.20	1	6-71	NA A	9.62	NA	+132	NA	1.51	NA	35.6	NA	23.46	NA	300	7.45
11:22	X	6.86	0.75	1292	107	+137	C	0.35	80%	416	171	7311	13/	220	748
17:00	X	(09)	0.05	308	E 41.	-14A	C		577	37.1	75%	22.10	6 UT	200	7.90
12:03	X	(3)3	0.02	3 17	1 7 1	Liue	- §	6 13	151	20.0	001.	52.04	0.77.	500	7.75
1710	X	100	0 - 2	5 1	1.21.	F173	2_	0.13	13/.	2.6.1	261	23.18	0.4%	300	7.45
		0 /5	U. O.L	3.12	0.0%	-148	3	0.12	0.81	19.7	18%	23.13	0.21	300	7.45
12:15	X	6.74	0.01	3.12	0.0%	-151	3	0.12	0.0%	17.9	9.17	23.14	0.17	300	7.45
12:50	X	6 98	0.02	3.15	0.9%	-155	4	0.12	0.0%	16.2	9 0%	23.12	0.07.	300	2.45
12:25	X	6.99	001	3.18	1.07.	-157	3	0.12		150	1127	7277	A 13-1	_	7/70
12:30	V	7.00	001	3. 20	0.87.	-159			0.07		4.5%	C5, W	0.41	300	4.45
		7 00	001	3. 20	0.07.	101	2	0.12	0.00	14.9	3.8%	2331	0.3/	300	7.45
	-														
Costation															
COMMENTS	91														

^{&#}x27;INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;

^{± 10} mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity



SITE:			D	D 1:			1.5	CO	NSULTING	EIDM-		EARTH S	VETEME			
DATE:	-	-		+ Recdi						7			ISIEMS			
	-	_		16/202					ELD PERSO		7	k5				
WEATHER	-		<u> </u>	224	620F				ERTIFICAT	ON #:		130	140			
MONITOR				[N-5 0101300	3	WELL DE					SCRE	ENED/OPEN	INTERVAL:	,	7-17	
PID/FID RI	ADI	IGS	(ppm):		JND: DUTER CAP: INNER CAP:	0. 6.				DEPTH: 9.5			.40 ft belo	w TOC		
	٥	9	1	H	1	PECIFIC		REDOX		SOLVED		IDITY	1	RATURE	PUMPING	DEPTH TO
TIME	PURGING	Ž		units) i00H+B)	(mS/cm	DUCTIVITY (EPA 120.1)	Po	TENTIAL (mv)	(mg/l)	(YGEN (SM 4500OG)		TU) 180.1)		2550)	RATE (ml/min)	(ft below TOC)
	5	SAI	READING	CHANGE*	READING	CHANGE*	READING	CHANGE'	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(1111/616111)	(it below loc)
940	×		5.36	NA	0.245	NA	293	NA	2.94	NA	28.4	NA	20.84	NA	300	7.20
945	X		5.26	0.10	0.245	_	291	2	2.87	2010	32.1	1345	21.02	10/0	1	7.23
950	X		5.19	0.07	0.244	10%	289	Z	ગ્રે.જું	1010	36.9	150/0	21.43	20%		7.25
955	×		5.14	0.05	0.243	10/0	289	1	2.86	100	35.4	406	21.73	10%		7.27
1000	×		5.13	6.01	0.243	-	283	٥	2.85	100	34.1	40%	21.84	140		7.28
1005	×		5.12	0.01	0.243	-	588	٥	2.92	20%	31.4	801	22.12	106		
1010		X	5.16	0.02	0.243	_	288	U	2.88	20%	30.2	400	22.28	10/0		
COMMEN.	rs:															

^{*}INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;

^{± 10} mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity



SHEET (OF (

SITE:		Form	er Hess	- Port Re	eading		CO	NSULTING	FIRM:		EARTH S	YSTEMS			
DATE:		10/6/	20				F	ELO PERSO	NNEL:	A	E				
WEATHER:		60	S Jyn	20				ERTIFICATI	ON #;	7,	130	40			
MONITOR V		;	LN - 6 E2010130	04	WELL DE		Inches			SCRE	ENED/OPEN	INTERVAL:		3-18	and the second s
PID/FID RE	ADING	S (ppm):		JND: DUTER CAP:	0	0			DEPTH: 10,5		()	St hele	w TOC		
	0 9	F	Н	SI	PECIFIC	ı	REDOX	DIS	SOLVED	TURE	HDITY	TEMPER	TATURE	PUMPING	DEPTH TO
TIME	PURGING	Hq)	units)	CONI (m\$/cm	DUCTIVITY	PO	TENTIAL		YGEN		TU)	(degre		RATE	WATER
	PU	READING	CHANGE'	READING	CHANGE'	READING	(mv)	(mg/l)	CHANGE:	READING	CHANGE	READING	CHANGE'	(ml/min)	(ff below TOC)
1505	1	1.57	NA	O. LUT	NA	402	NA	2.80	NA	17.9	NA	27,00	NA	719	8.67
15/0	X	6.63	0.06	0.499	43×	-110	-8	1,06	37%	16.2	9,44	2095	02		8.71
1515	X	667	6.04	0.571	14 %	110	18	1,22	30 4	17.1	194.	12.98	174	1	1
1560	X	6.71	6.64	0,626	9.6%	lad	-4	1.09	10 4.	10.0	83%	2797	14	\neg	
1525	X	674	0.03	0692	10.5%	166	-4	0.99	9.11	10,2	15%	2301	024	1	
1530	X	6.74	6.00	0.761	2.7 %	-128	-2	0.95	47.	95	6.14.	93/0	637		1 1
1505	K	6.74	0.00	6.721	14%	131	-3	091	5%	F.F	734	27.2	0.7%		
1540	X	6.74	0.00	0.731	197	134	-3	0.85	5.5%	8.2	6.87	23.29	17.	V	
1545	į,	(6.74	0.00	0.754	2.671	-178		0.78	8124	7.4	9.77	13.33	17.	<u>J</u>	
GOMMENT	S:														

[&]quot;INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH: ± 3% for Specific Conductivity and Temperature;

^{± 10} mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity



SITE:		Forr	ner Hess	- Port R	eading		0	DNSULTING	FIDM-		Parwii e				
DATE:		6/6	120		odonig			ELD PERSO			AT	SYSTEMS			
WEATHER		680	Synn					CERTIFICAT			11 6	040			
			J								131				
MONITOR		:	LN - 7		WELL DE	:РТН: 4 5	181			SCR	EENED/OPEN	INTERVAL		<u>.5.15'</u>	
WELL PER	MIT #:	-	E201013	004	WELL DIAME									8-181	
DIDUCTO DE	0.72.11.10.1		-											2 10	
PID/FID RE	AUING:	> (ppm):	BACKGRO		0	0,0	PUI	VIP INTAKE	DEPTH: (\$	ft below T	oc a	10			
				OUTER CAP:	0	U	DEI	TAW OT HT	ER BEFORE P	UMP INSTAL	LATION:	It belo	w TOC		
						. 7									
	PURGING	(pH	pH unitsj		PECIFIC	1	REDOX	1	SOLVED		BIDITY	TEMPE	RATURE	PUMPING	рерти то
TIME	URG	A SAN A	1500)H+85	(mS/cm		Po	TENTIAL (mv)	(mg/i)	YGEN (SM 45000G)		TU) 180 1)		ees C)	RATE	WATER
-	2 23	READING	CHANGE*	READING	CHANGE'	READING	CHANGE.	READING	CHANGE.	READING	CHANGE.	READING	CHANGE	(ml/min)	(ft below TOC)
11:25	X	6.6	NA	0.820	NA	1/07	NA	3.44	NA	16,5	NA	2407	NA	715	921
11:30	X	674	6.16	6924	12%	-126	7/9	704	40%	82	20%	779t	n44.	1	127
11:35	X	1811	0.10	6991	79%	-170	-14	100	07	0.3	24.	03,17	0.71		
11:40	Y	0.0	0.1	1116	10%	1 1		1.00	83"	(P, N	216	23.88	02%		
WUT	1	1 94	6.67	1.1	10%	-154	-14	649	11%	17.1	3/7	2463	0.6%		
11.15	X	9.11	0.03	1/9	1.8%	-158	-4	0.91	2.3%	2.8	31%	74,06	0.1%		1
11.50	X	6.95	0.61	1.15	0.8%	-161	- 3	0.40	24/	2.5	10.72	2407	014	1	
1125	X	6.96	6.01	1.14	6.84.	764	-3	0.38	51/	23	8%	2468	014		4
1,00	X	697	0.01	1.15	08%	766	2	6.77	1/5	13	67.	27.01	61-1		
11:05	X	699	0.61	117	1.5%	10.00	3	0.37	2.61	2.0	Vai	u "	0.1		
6:10	X	7.00	0.01	17	0.1	767	1	- U, I	01	0 · 0	0/1	24.03	0. 7	4	
	11/	1.00	, , ,	136 /	0.1	7 //	-d	0.36	1%	d.d	DY	201	0.3%		
COMMENT	e.														
	w														

^{*}INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;

^{1 10} mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity



Date: 1/8/20 Job #/Name: PR - SOUTH Weather: SUW (10 PF Personnel: 155

Equipment: 43 406

				pl			
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date	Span Pt (pH 10)	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted	(pH 7 - acceptable range 6.9-7.1)	Recalibrate (Y/N)
12	13.721	4.01	4.00	9.81	10.00	7-03	A.J
	13.	pl	1 3 Hour Check (*2-pol	nt calibration only needs	to be conducted if check value		, ,
		Zero Pt *	Lot / Exp Date	Span Pt *	Lot / Exp Date	Check (must be within +/-0.2 units	Lot / Exp Date
ime (3 hr		(pH 4)		(pH 10)		or need to recalibrate)	
check)	Temperature	(p.v. vy		(pn 10)		(pH 7 - acceptable range 6.8-7.2)	
1/2	21.41	404	4.00	10.09	10.00	7.01	W
					1011		

				Conductivity		
	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/-1% or need to recalibrate)	Lot / Exp Date
Time		•••		3/31/21	(use 1.413 ms/cm - acceptable range 1.398 - 1.427)	
,	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
270	0.001	0.000	1.21	1.91	11 (4) 1	1/

	,			Turbidity		
	Zero	Lot / Exp Date	Span	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate	Lot / Exp Date
Time			(100 NTU)	7/22/21	(use 100 NTU - acceptable range 90-	/
	Initial Reading	Adjusted	Initial Reading	Adjusted	110 NTU) Check Value	Recalibrate (Y/N)
375	0.0	0.0	97.5	100	700	21

			Dissolved Oxyg	en	
	Zero	Lot / Exp Date	Air Span	Lot / Exp Date	Check - reading must be 0.3mg/L o
Time	(0% Solution)	11/29/20	(100%)	_	(0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
030	0.0	0.0	104.81.	N	0.0
				*	



NJDEP Certification No. 13040

	ا ہے ا	Date 0/8/1 Job #,	Particial Al	Weather: Crosserial Number:	Sand Personnel:	-	
uipment:	4-51						
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date 57(4/1)	Span Pt (pH 10)	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)
8,'30	1)15	\$ -1.07	400	1002	10,02	7.00	11
		рН	3 Hour Check (*2-po	int calibration only need	ds to be conducted if check value is ou	t of range)	V
		Zero Pt *	Lot / Exp Date	Span Pt *	Lot / Exp Date	Check (must be within +/-0.2 units	Lot / Exp Date
Time (3 hr check)	Temperature	(pH 4)	376/21	(pH 10)	6/5/21	or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	
115	21 00	4.01	40	6.11	10.00	7.00	11
	Zero	Lot / Exp Date	Span	Lot / Exp Date	Check (must be within +/-1% or need to recalibrate)	Lot / Exp Date	
	Žero	Lot / Exp Date	Span	Conductivity Lot / Exp Date		Lot / Exp Date	
Time .	(Ambient Air)		(1.413 ms/cm)	7/1/2/	(use 1.413 ms/cm - acceptable range 1.398 - 1.427)	•	
िटा	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	
,,,,	0.60	0,000	1.45	1.	1.41	N	
				Turbidity			1
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate	Lot / Exp Date	
THIE				10.	(use 100 NTU - acceptable range 90		
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	
0.7	5.7	0,3	102	/00	103	N	
					•		1 ()
			Dissolved Oxy]	10
	Zero	Lot / Exp Date	Dissolved Oxy Air Span	gen Lot / Exp Date	Check - reading must be 0.3mg/L or less		1
Time	Zero (0% Solution)	Lot / Exp Date	T				
Time		Lot / Exp Date Adjusted	Air Span		less		1,



SITE:				Port Rec	lina			co	NSULTING	FIRM:		EARTH S	YSTEMS			
DATE:				0/8/20				FIL	ELD PERSOI	NNEL:		ks	-			
WEATHER	-			ny 6				с	ERTIFICATI	ON #:		130	140			
MONITOR WELL PER				5-1R 00=253	24	WELL DE					SCRI	EENED/OPEN	INTERVAL:		6-16	
PID/FID RI	ADIN	IGS	(ppm):		IND: DUTER CAP: NNER CAP:	0.	· O			DEPTH: 8.5 ER BEFORE P			60 ft belo	w TOC		
	g Z	SZ.	-	H units)	I .	PECIFIC		REDOX TENTIAL	1	SOLVED (YGEN	1	BIDITY ITU)	1	RATURE	PUMPING RATE	DEPTH TO WATER
TIME	PURGING	MPL		00H+B)	(mS/cm)		"	(mv)	(mg/l)	(SM 4500OG)		180.1)		2550)	(ml/min)	(ft below TOC)
	Ē	SA	READING	CHANGE.	READING	CHANGE*	READING	CHANGE'	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1020	γ		7.25	NA	0.498	NA	_23	NA	0.20	NA	229	NA	20.01	NA	300	4.00
1025	>		6.99	0.26	0.483	30%	-43	26	0.14	30%	223	348	20.70	40%	1	4.25
1030	X		6.97	0.03	0.481	10/0	-53	٤١	0.14	rn.	169	240%	20.97	10%		4.26
1035	Y		6.98	10.0	0.480	1%	-56	3	0.14	-	111	34%	21.05	10/0		41.27
1040	>		6.98	-	0.478	10%	-59	3	0.14	-	101	90%	21.15	106		4.27
1045	>		6.88	_	0.477	10%	-64	5	0.14	-	98.4	30/2	21.27	10/0		
1050	×		6.58	-	0.476	10%	-68	4	0.14	-	95.7	30%	21.41	10%		
1055		¥	6.99	0.0 (0.475	10%	-72	41	0.14	-	92.7	30%	21.36	10%	J	
	╁			-	-	-	-		-			-	-	+		
	+					T										
COMMEN	TS:									1					ш	

^{*}INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;

^{± 10} mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity



SITE:			Port	Realing				CC	NSULTING	FIRM:		EARTH S	YSTEMS			
DATE:				3/2020				Fi	ELD PERSO	NNEL:		AE				
WEATHER				Sanny					ERTIFICATI	ON #:		130	040		2	
MONITOR WELL PER			_	LS-Z	793	WELL DE	PTH: 12.	Inches			SCRI	EENED/OPEN	INTERVAL:		7. 25 ~ 12.2	5 '
PID/FID RI	EADII	NGS	(ppm):		UND: OUTER CAP: INNER CAP:	0. 25.	0			DEPTH: 9.5 ER BEFORE P	-		. 24_ft belo	w TOC		
TIME	GING	SAMPLING	(pH	o H units) 500H+B)	CON	PECIFIC DUCTIVITY		REDOX	0)	SOLVED	(N	BIDITY (TU)	(degre	RATURE ees C)	PUMPING RATE	DEPTH TO WATER
	2	SAM	READING	CHANGE*	(mS/cm READING	(EPA 120.1)	READING	(mv)	(mg/l)	(SM 4500OG)	READING	(180.1)		2550) CHANGE*	(ml/min)	(ft below TOC)
1030	×		7.33	NA	1.36	NA	164	NA	3.40	NA	73.5	NA	18.96	NA	300	3.32
1035	7		7.49	0.16	1.34	10%	125	39	1.33	67%	83.3	130%	19.56	345		3.34
1040	>		7.49	-	1.34	-	80	45	0.87	210%	74.0	110/0	19.93	20/3		3.38
1045	X		7.50	0.01	1.34	_	15	65	0.65	2500	50.4	310%	20.06	10%		3.40
1050	Y		7.52	50.0	1.35	10%	-6	21	0.55	150/3	31.2	3842	20.23	10%		3.43
1055	>		7.49	0.01	1.35	-	-14	8	0.56	10%	33.6	845	20.49	106		3.44
1100	×		7.48	0.07	1-37	1%	-20	b	0.57	10/0	31.8	643	20.61	10%		3.46
1105	7		7.47	0.0;	1.41	3%	-25	5	0.58	10%	28.5	90%	21.02	208		
1110		X	7.47	-	1.44	20%	-34	9	0.54	60%	26.4	70%	21.10	10%	L	
							1				<u> </u>					
COMMEN	TS:															

^{&#}x27;INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;

^{± 10} mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity



SITE:	_	-	Po	+ Rec	. Line			C	ONSULTING	FIRM:		EARTH S	YSTEMS			
DATE:	-			18/2020					IELD PERSO				AE			
WEATHER	. –			OF S					CERTIFICAT			130				
	_															
MONITOR	WEL	L #:		LS-3			PTH: 12.5				SCRE	ENED/OPEN	INTERVAL:		6.5-12.5	5 1
WELL PER	MIT :	¥:	26	000075	92_	WELL DIAME	TER:	Inches								
PID/FID RE	ADIA	igs	(pam):	BACKGRO	UND:			PII	MP INTAKE	DEPTH: _ 8.5	ft below Ti	nc				
			(Pp)-		OUTER CAP:	0.	0			ER BEFORE P			こ9 ft belo	w TOC		
					INNER CAP:	ì.										
	U	9	р	Н	S	PECIFIC	T -	REDOX	DIS	SOLVED	TURE	BIDITY	TEMPE	RATURE	PUMPING	DEPTH TO
TIME	PURGING	FIN	(pH t	units) 00H+B)	1	DUCTIVITY	PO	TENTIAL	1	(YGEN		TU)		ees C)	RATE	WATER
	2	SAM	p (pH t (SM 45 READING	CHANGE.	(mS/cm	(EPA 120.1)	READING	(mv)	(mg/l)	(SM 4500OG)	READING	180.1)		2550)	(ml/min)	(ft below TOC)
1150	~		6.57	NA	7.66	NA	~77	NA	2-15	NA	35.8	NA	20.40	NA	315	1.32
1155	×		6.55	0.02	7.73	10/0	-82	5	1.47	310/3	34.5	40%	20.39	10%		1.34
1200	×		6.55	-	7.81	10%	-86	4	1.05	28%	28.4	17%	20.34	140		1.36
1205	×		6.56	0.01	7.74	10/3	-88	Z	0.96	80%	32.1	13%	20.78	240		1-38
1210	X		6.56	-	7.74	,	- 90	Z	0.99	3%	35,5	40%	30.77	12/5		1.40
1215	k		6.56	-	7.75	10%	- 91	1	1.03	30/3	36.9	40%	20.75	143		
1220	x		6.56	-	7.75	ů.	-91	0	1.10	20%	37.1	10%	20.72	10%		
1225		×	6.56	-	7.77	10%	-93	2	1.13	3%	35.6	40%	20.74	10%	J	
COMMEN	TS:														*	

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^{± 10} mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity



SHEET	OF	:

SITE:			Port	Read	ios			C	DNSULTING	FIRM:		EARTH S	YSTEMS			
DATE:			-11	10/8/2	020			F	IELD PERSOI	NNEL:		KJ				
WEATHER:			Si	my	600F				CERTIFICATI	ON #:		130)40			
MONITOR			20	<u> </u>	35	WELL DE		41 Inches			SCRE	ENED/OPEN	INTERVAL	-	7-14	
PID/FID RE	ADI	igs	(ppm):		IND: DUTER CAP: NNER CAP:	0.0	5			DEPTH: 9.5	_		. 90 ft beld	ow TOC		
TIME	RGING	APLING	Hq)	H units) 500H+B)	I	PECIFIC DUCTIVITY (EPA 120.1)	1	REDOX PTENTIAL (mv)		SOLVED (YGEN (SM 4500OG)	(N	BIDITY TU) 180.1)	(deg	RATURE rees C) 2550)	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
	2	SAR	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	(1811/11111)	(it below TOC)
1145	У		7.41	NA	2.29	NA	18	NA	0.40	NA	99.1	NA	19.99	NA	300	2.76
1150	Y		7.37	0.04	2.32	10%	5	13	0.40	~	100	100	19.95	10/0	ì	2.40
1155	X		7.34	6.03	2.33	140	6	1	0.40	-	101	10%	20.20	10/0		2.44
1200	>		7.33	10.0	2.32	10/3	11	5	0.40	_	95.1	600	20.77	3%		2.46
1205	7		7.33	~	2.31	10%	19	ŝ	0.40	-	94.7	100	20.60	100		2.50
1216	×		7.34	0.01	2.29	1%	15	4	6.40	-	94.6	10%	20,75	100		2.53
1215		×	7.35	0.01	2.29	10/0	19	4	0.40	Regio.	94.8	10/0	20.86	14		2.55
COMMENT	'8:															

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^{1 10} mv for Redox Potential; and 1 10% for Dissolved Oxygen and Turbidity

Earth Systems

7/16/20 \$5-14

NUDEP Certification No. 13040

(5	Date: 7/5/20 Job #/Name Por Personnel: PE	
quipment: 451	Serial Number: J4747	
	nH	*

- 1					pH			
- 1			Zero Pt	Lot / Exp Date	Span Pt	Lot / Exp Date	Initial Check (must be within +/-	Lot / Exp Date
- 1	Time	Temperature	(pH 4)	15/471	(pH 10)	6/9/21	0.1 units or need to recalibrate)	10/31/21
- 1	- 1	-	Initial Reading	Adjusted	Initial Reading		(pH 7 - acceptable range 6.9-7.1)	
ŀ	779	80.	// ac		Initial Reading	Adjusted		Recalibrate (Y/N)*
~/	1.5 /	00	7.0/	4.66	9.93/9.94	10.00/10.00	7.10 /204	1/
16	730	700	4. 3 pl	1 3 Hour Clieck (*2-po	int calibration only needs	to be conducted if check value is ou	t of range)	- 0
- 1	1		Zero Pt *	Lot / Exp Date	Span Pt *	Lot / Exp Date	Check (must be within +/-0.2 units	Lot / Exp Date
	Time (3 hr		(pH 4)		(pH 10)		or need to recalibrate)	all.
- 1	check)	Temperature					(pH 7 - acceptable range 6.8-7,2)	- 4ª
_/	Dior	(10	404	4.00	10.0	(0.00	7.35	1
1/4	11 60	300	4.01	400	10.09	10,00	700	1

				Conductivity	The State of the S	THE THE WHITE WAS
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/-1% or need to recalibrate)	Lot / Exp Date
Tung	Valled Bands				(use 1.413 ms/cm - acceptable range 1.398 - 1.427)	*
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
802	O ocase	8.000	0.191	191	141	M
235	0.042	0.000	092	1 0	1 i'ii	1/

				Turbidity		
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate	Lot / Exp Date
	V-W-10				(use 100 NTU - acceptable range 90- 110 NTU)	
9	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
2 1	01	0,0	98.1	100	103	11/
1128	0.1	0. 0	943	(00	/0/	11/

			Dissolved Oxy	gen	
Time	Zero (0% Solution)	Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L of less
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	(0% Solution) Check Value
811	0.0	8.0	101	N	0.3
, , ,	00	60	KOD	~	0.1

7/



NJDEP Certification No. 13040

Date: 7/15/2 to Job #/Name: PR NO 1 Weather: SUN 887 Personnel: KS

Equipment: 40 8 V BA V 52

Serial Number: 490 15

				pl			
		Zero Pt	Lot / Exp Date	Span Pt	Lot / Exp Date	Initial Check (must be within +/-	Lot / Exp Date
Time	Temperature	(pH 4)	5/4/21	(pH 10)	1./9/21	0.1 units or need to recalibrate)	13/31/2
- 1					Ot . 1	(pH 7 - acceptable range 6.9-7.1)	1-1311
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)
307	24.51	4.24	4.00	9.94	10 00	7.02	N
		pl	H 3 Hour Check (*2-pol	nt calibration only need	s to be conducted if check value		
		Zero Pt *	Lot / Exp Date	Span Pt *	Lot / Exp Date	Check (must be within +/-0.2 units	Lot / Exp Date
lime (3 hr		(pH 4)		(mH 10)		or need to recalibrate)	
check)	Temperature	(641-4)		(pH 10)		(pH 7 - acceptable range 6.8-7.2)	
1045	22.30	4.04	4.00	18-00	10.00	2.8/	٨/
			1 '			7-49/	

				Conductivity			
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	8/9/20	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date	
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	
RID	0001	0.000	129	1.41	1 1 40	Λ/	

				Turbidity		
Time	Zero	Lot / Exp Date	Span (100 NTU)	/0/18/70	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90- 110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
15	0.0	0.0	105	100	100	70

		Dissolved Oxyge	bn	
Zero	Lot / Exp Date	Air Span	Lot / Exp Date	Check - reading must be 0.3mg/L o
(0% Solution)	0100/00	(100%)		(0% Solution)
Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
0.0	0.0	78.57	N	0.0
	(0% Solution)	(0% Solution) 8/28/20	Zero Lot / Exp Date Air Span (100%)	2ero 8/28/20 Air Span (100%)

Earth Systems

NIDEP Certification No. 13040

				эстягипирет.	7636 Personnel: 1		
	Temperature	Zero Pt	Lot / Exp Date	Span Pt	Lot / Exp Date	Initial Check (must be within +/-	
Time	remperature	(pH 4)	5/6/21	(pH 10)	6/9/01	0.1 units or need to recalibrate)	(0/3// _e /
L		Initial Reading	Adjusted	Initial Reading	A discussed	(pH 7 - acceptable range 6.9-7.1)	7
6.60		407	4.00	970	Adjusted 6		Recalibrate (7)
		n	H 3 Hour Chack (#3 -		74.03	7. 09	A
		Zero Pt *	Lot / Exp Date	oint calibration only n	eeds to be conducted if check value is ou	t of range)	-/-
Time (3 hr check)	Temperature	(pH 4)	5/6/21	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate)	Lot / Exp Da
11:21		1.09	9.00	100		(pH 7 - acceptable range 6.8-7.2)	
		1.0	9,00	10.08	10.00	700	- A/
				Promotion at 150			
	Zero	Lot / Exp Date	Span	Conductivity			
Time	(Ambient Air)		(1.413 ms/cm)	3/3//2/	Check (must be within +/-1% or need to recalibrate)	Lot / Exp Date	
S.	Initial Reading	Adjusted	Initial Reading		(use 1.413 ms/cm - acceptable range 1.398 - 1.427)		
8.00	0.004	0000	15/	Adjusted	Check Value	Recalibrate (Y/N)	
			1,21	1.90	(4)	N	
						1	
	77			Turbidity			
	Zero	Lot / Exp Date	Span	Lot / Exp Date	Check - must be within +/- 10% or		
Time			(100 NTU)	7/20/21	need to recalibrate	Lot / Exp Date	
-	Initial Reading	Adjusted			(use 100 NTU - acceptable range 90- 110 NTU)		
800	00	• + O	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	
9	•		99.9	100	100	Accomplate (1)14)	
						N	
			Dissolved Oxyg	100			
	Zero	Lot / Exp Date	Orazoraeu Oxyg				
Time	(0% Solution)		Air Span	Lot / Exp Date	Check - reading must be 0.3mg/L or less		
-			(100%)	A VIII A	(0% Solution)		
15	Initial Rearing	Adjusted	Check Value	Recalibrate (Y/N)	Check Value		
)	6	0	10-	1/	O. T		
				1.4	0,1		

Earth Systems

NJDEP Certification No. 13040

		Date: 0 7/20 10b	1/Name: PR #1	LF Washar St	INNY 76 Personnel: KJ	-	
Equipment:	HORIBA	1 U52		Serial Number: 43			
					pH		
		Zero Pt	Lot / Exp Date	Span Pt	Lot / Exp Date	Initial Check (must be within +/-	Lot / Exp Date
Time	Temperature	(pH 4)	5/6/21	(pH 10)	6/9/21	0.1 units or need to recalibrate)	10/31/-
	1	Initial Rearing	Adjusted	Initial Reading	Anjusted	(pH 7 - acceptable range 6.9-7.1)	Paratibanha (V/A)
9 10	(00)-	3 78	4.00	10.24			Recalibrate (Y/N
					10.00	7.02	/\/
		Zero Pt *	Lot / Exp Date		ds to be conducted if check value is ou		
Time (3 hr	Temperature	(pH 4)	rot / txp bate	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate)	Lot / Exp Date
11:30	77.08	[] 01	1000	110		(pH 7 - acceptable range 6.8-7.2)	
11 80	66.00	4.06	4.00	0.08	10.00	7.01	N
	Zero	Lot / Exp Date	C	Conductivity			
Time	(Ambient Air)	LOL / CXP Date	(1.413 ms/cm)	3/2//2/	Check (must be within +/-1% or need to recalibrate)	Lot / Exp Date	
	Initial Reading			91311	(use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Water and the second se	
215		Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	
215	0.000	C 000	1.15	1-41	1.42	N	
				Turbidity			
	Zero	Lot / Exp Date	Span	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate	Lot / Exp Date	
Time		n,erfini _{tion} ,	(100 NTU)	7/22/21	(use 100 NTU - acceptable range 90		
0.00	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	
8 20	0.0	0.0	98.7	700	700	N	
			1				
			Dissolved Oxy	gen			
Time	Zero	Lot / Exp Date	Air Span	Lot / Exp Date	Check - reading must be 0.3mg/L or less		
time	(0% Solution)		(100%)		(0% Solution)		
-	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value		
8175	110	0.0	1 1 1 1 1 1	7			



SITE: DATE: WEATHER: MONITOR WELL	#:	Form 10/ SU/	7/	- Port R	eading WELL DE	PTH: 45		CONSULTING FIELD PERSO CERTIFICAT	NNEL:	KJ	13	SYSTEMS 040			
WELL PERMIT #:	55 (g	ppm):	BACKGROL	JND: DUTER CAP:	WELL DIAME		inches	ump intake (DEPTH: (J.	tt below T				5-15' 4-14.25	
PURGING	R	(pH ui (SM 150 EADING	nits)	2	PECIFIC PUCTIVITY (EPA 120 1)	POT	EDOX FENTIAL (mv)	(mg/l)	SOLVED (YGEN (SM 45000G)	(N (EPA	BIDITY TU) 180 W	(degr	RATURE Pes C) 2550)	PUMPING RATE (mi/min)	DEPTH TO WATER
9:05 X 9:05 X 9:15 X 9:28 X 9:25 X		5.57 57 5.48 5.43	7 NA 0.06 0.06	0.198 0.198 0.199 0.200 0.201	NA 07. 0.57. 0.57. 0.07.	231 235 235 238 242 245	NA L-/ 3 L-/ / / / / / / / / / / / / / / / / / /	3.52 3.24 3.36 3.29 3.31 3.29	SO1. 3.7/. 2.01. 0.6/.	97.0 97.7 97.3 90.8 87.4 89.6 84.2	1 -	75.3 26.06 26.31 26.20 26.29 25.93	0.9%	300 300 340	5.81' 5.85' 5.85' 5.85' 5.85' 5.85'

^{*}INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH: ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity



					Engineerin	9										
SITE:			Po	10/7/2	lins			co	NSULTING	FIRM:		EARTH S	YSTEMS			
DATE:				10/7/2	020			FII	ELD PERSON	INEL:		KJ				
WEATHER:			S.	JANY .	70 ° F				ERTIFICATI	ON #:		130	140			
MONITOR	WELL	. #:		11-2			PTH: jų '	75			SCRE	ENED/OPEN	INTERVAL:	L	1.75 - 14.	75
WELL PER	VIIT #	ł:	26	000 806	56	WELL DIAME	TER:	Inches								
		_														
PID/FID RE	ADIN	GS	(ppm):	BACKGROU		0.)EPTH: <u> </u>			37			
					OUTER CAP: NNER CAP:	0.		DEP	TH TO WAT	ER BEFORE PI	JMP INSTAL	LATION :	ft belo	w TOC		
	_	_							,		·					
	PURGING	2		H units)		ECIFIC OUCTIVITY	1	EDOX FENTIAL	1	SOLVED YGEN	1	IIDITY TU)	TEMPEI (degre		PUMPING RATE	DEPTH TO WATER
TIME	RG.	MPL		00H+B)	(mS/cm)		1	(mv)	(mg/l)	(SM 4500OG)		180.1)	(SM:		(ml/min)	(ft below TOC)
	3	SA	READING	CHANGE*	READING	CHANGE.	READING	CHANGE'	READING	CHANGE*	READING	CHANGE.	READING	CHANGE*		
1040	Y		6.57	NA	0.980	NA	-46	NA	0.30	NA	235	NA	21.33	NA	300	6.40
1045	χ		6.63	0.06	0.970	1%	-52	6	0.30	, mark	228	30%	22.15	100		
1056	X		6.65	0.02	0.958	10%	-60	8	0.30	-	205	100/0	22.30	140		
1055)		6.68	0.03	0.933	3%	-65	5	0.30	-	198	390	22.29	140		
1100	X		6.69	0.01	0.923	10%	-69	4)	6.30	_	184	70/0	22.32	10/0		
1103	'n		6.71	0.02	0.918	10%	-72	3	6.30	-	וררו	40%	22.35	10%		
1110		¥	6.72	0.01	0.310	10%	-75	3	6.30	-	171	340	22.36	:0%	J	
	T															
-	+								1		1					
	╁	H			 		-		-	-	 		-			
							1									
COMMEN.	rs:															

^{*}INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;

^{± 10} mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity



SITE:			Por-	Read .	2.5			C	ONSULTING	FIRM:		EARTH S	YSTEMS			
DATE:				0/7/202				-	IELD PERSO	NNEL:		AE				
WEATHER	• _		6	8°F S.	DANY				CERTIFICAT	ION #:		130	40			
MONITOR			26	600806	64	WELL DE	_	Inches			SCRI	ENED/OPEN	INTERVAL:	-	.4-11	4 '
PID/FID RI	EADIN	IGS	(ppm):		JND: OUTER CAP: INNER CAP:	0. 6.	0			DEPTH: 8.4			92 ft belo	w TOC		
TIME	PURGING	SAMPLING	Hq)	p H units) 500H+B)	1	PECIFIC DUCTIVITY (EPA 120.1)		REDOX TENTIAL (mv)		SOLVED (YGEN (SM 4500OG)	(N	BIDITY TU) . 180.1)	(degr	RATURE Pes C) 2550)	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
	2	SAI	READING	CHANGE*	READING	CHANGE'	READING	CHANGE'	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		,
822	Y		6.48	NA	0.529	NA	~ 8	NA	2.58	NA	84.9	NA	18.99	NA	330	6.99
900	X		6.64	0.16	0.593	12%	-22	47	2.35	210%	78.9	70/3	19.29	20/8		7.10
905	X		6.80	6.16	0.694	170/3	-99	44	1.54	350%	57.1	27%	19.71	20%		7.14
910	×		6.88	80.0	0.755	8.70%	-115	16	1.38	100%	37.3	34%	19,10	100		
915	X		6.91	0.03	0.802	6.8%	-125	10	1.26	9%	28.1	240%	20.11	18/3		
920	×		6.94	0.03	0.833	3.2%	-132	7	1.22	30%	24.0	140/0	20.26	10/3		
925	×		7.00	6.0%	0.370	4.4%	-)41	9	1,20	20%	17.9	25%	20.40	10%		
930	\succ		7.02	6.02	0-887	1.90%	- 145	4	1.18	20/3	16.4	80%	20.50	10%		
935	×		7.04	0.02	0.911	20%	-151	7	1.16	200	15.7	40%	20.57	140		
940	ኦ		7.09	0.05	0.920	10%	-156	5).14	20/0	14.4	845	20.60	14		
945	Т	x	7.12	0.03	0.933	10/3	163	7	1.12	20/3	13.0	9%	20.62	10%		

^{*}INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;

^{± 10} mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity



SHEET OF

SITE:		Forr	ner Hess	- Port Re	eading		CC	DHSULTING	FIRM:		EARTH S	YSTEMS			
DATE:		12/	7/22)			F1	ELD PERSO	NNEL:	Plate	AE	g.co			
WEATHER:				Signy	- 	Marian (mining and angelon) (a.g., panta), ang	(CERTIFICAT	ION #:		130	040	a proposition of the proposition of the pro-	and the second second	
MONITOR V		e g	L1 - 4 26000806	72	WELL DE	VALUE VARIABLES CO.	MACHANINO AND			SCRI	ENED/OPEN	I INTERVAL:	-	4-61	
PID/FID RE/	\DING:	5 (ppm):		UND: OUTER CAP: INNER CAP;	0	0	PUI	WP INTAKE	DEPTH: 9.5 ER BEFORE P	ft below T	DC LATION:	37 It belo	w TOC		
TIME	PURGING	(pH	pH units)	CONE	ECIFIC		REDOX TENTIAL		SOLVED		BIDITY TU)	TEMPE!		PUMPING RATE	DEPTH TO WATER
	PAS	READING	CHANGE.	(mS/cm)	(EPA 120 1)	READING	(mv)	(mg/l)	(SM 45000G)	READING	180 1) CHANGE	READING	CHANGE:	(ml/min)	(ft below TOC)
1-:36	X	7.66	NA	03,307	NA	45	NA	5.13	NA	74	NA	1/40	NA		8 44
1:35	X	6.87	013	0.316	094	11	34	4.30	16%	(9	6%	21.53			8,55
4.40	X	6.89	60d	6.70	07.	8	3	4.11	44 "	(2.8	11,	2171			8.67
12:15	K	691	0,62	6,311	11.	-16	-18	702	7%	9.0	39%	2174			877
60:50	X	672	6.64	0.310	1.	-28	-)	368	364	65	27×	21.98			8.86
6.22	K	693	601	6.508	6.6%	-14	-4	407	1031	68	ÝĆ.	18	6.7 K		
11,00	¥	692	601	0.307	14	-15	9	401	0.47.	63	7.7 %	21.67	07%		
11:05	X	692	6,60	0.306	17.	-7	-8	3.99	2.4%	60	4.71	1/94			
11,10	X	6.72	0,00	0.305	17.	-3	-4	3.93	1.5%	5.7	5%	21,97			
11:15	X	6.12	0.00	6.305	Co	4	7	3.85	2.0%	55	35%	200			
COMMENTS	S:	-		And the same of th	T CANADORNAL T										

[&]quot;INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: 2 0.1 for pH; 2 3% for Specific Conductivity and Temperature:

^{1 10} my for Redox Potential; and 1 10% for Dissolved Oxygen and Turbidity



SITE:		For	mer Hes	s - Port R	eading			001011							,
DATE:		10/	717	0				CONSULTING				SYSTEMS			
WEATHER	ŧ	nip	NIM	7.0	-			FIELD PERS			22				
	-	30.	210 3	1				CERTIFICA	TION #:		13	040			
MONITOR	WELL	#2	BG-2		WELL DI	T Partie 4									
WELL PER	MIT#		260000813	0	WELL DIAMI	37.7	y q v			SCR	EENED/OPEI	INTERVAL	:	4.2 0.2	
							1114419279	•					-	4-91	
PID/FID RE	ADIN	GS (ppm):	BACKGRO	UND:	O .	0	101	IIIIO INTENE	DEPTH: S.S	~					
			BENEATH	OUTER CAP:	Accessory of the same of the s	0					array	7			
			BENEATH	INNER CAP:	-0	0	0,41	EFIS IO WA	er before p	UMP INSTAL	LATION : (2)	T. Itt bele	TOC		
	0	5	pH		PECIFIC		REDOX	Tois	SOLVED	101 2 × 201 0	A fills a seed o				
TIME	PURGING	3.	units) 500H+8	1	DUCTIVITY	PO	TENTIAL		YGEN		BIDITY TU)	1	RATURE	PUMPING	DEPTH TO
	2	READING	CHANGE.	(mS/cm)	120.77		(mv)	(mg/I)	(SM 45000G)	1	180 11		rees C) 2550)	RATE (ml/min)	WATER
12:30	γ.	7.17	NA	1	CHANGE.	READING	CHANGE.	READING	CHANGE.	READING	CHANGE	READING	CHANGE"	(12041-016163)	(ft below TO
12:35	V	1/1/	20 11 20	0.124	NA	110	NA	0.10	NA	37.6	NA	26.55	NA	550	3.20
	1	6.60	0.96	0.148	20%	-14	4	0.10	0%	31.9	361	2//8	Mi coming		3.34
12:40	X,	652	014	10.170	15%	-36	22	010	0%	30.6	- 01	2/30	03%	(50	
2:45	X	16.48	0.04	0180	5.8%	-(14	7	0.70	2.1	- N	2.5%	CXON	U.S1.	520	3.45
12:50	久	(n.41	10.07	0./83	1.6%	13	3	0-70	0/-	3/./	162	4683	0.31	520	3.52
17:55	X	6.37	164	1/83	And the same of th	1	3	0.70	07.	30.6	1.6%	2692	05%	250	3.60
3:00	X	6.30	0.07	0.105	0.0%	-47	LO	0.10	0%	31.0	1.2%	27.10	05%	250	3.62
			10.07	0.106	16%	-45	2	0.10	0%	31.7	207	2216	627	-	3000
3:05	X	6.25	0.05	0.190	20%	-44	1	0.10	0%	30 0	5 27	7777	0.01	250	3.201
	100	The state of the s						170	6//-	300	2.2%	X41.4	0.0	250	3.801
vdpppjesa					The same of the sa		and the ordered to the spirit of the second to the second								
OMMENTS	-	1				(Stratung)									
									Control of the Contro						

^{&#}x27;INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; \pm 10 mv for Redox Potential; and \pm 10% for Dissolved Oxygen and Turbidity



SITE:			Forme	r Hess	- Port	Realins		C	NSULTING	FIRM:		EARTH S	YSTEMS				
DATE:				10/7/2	ರಿಸಿರ			F	ELD PERSO	NNEL:		A	5				
WEATHER					Sunny				ERTIFICAT	ON #:			040				
MONITOR WELL PER				B6-3	32	WELL DE					SCRE	ENED/OPEN	INTERVAL:		7-12	1	
PID/FID RI	EADII	NGS	(ppm):		UND: OUTER CAP: INNER CAP:		. O . O			DEPTH: <u>95</u>			.93 ft belo	w TOC			
TIME	PURGING	SAMPLING		oH units)		PECIFIC DUCTIVITY	1	REDOX TENTIAL	1	SOLVED (YGEN		BIDITY TU)	TEMPER (degre		PUMPII	- 1	DEPTH TO WATER
''''	PUR	SAME	(SM 45	CHANGE*	(mS/cm	(EPA 120.1)	READING	(mv)	(mg/l)	(SM 4500OG)	(EPA	180.1)	(SM 2	2550) CHANGE*	(ml/mi	n)	(ft below TOC)
1205	×	П	6.80	NA	0.290	NA	84	NA	3.94	NA	69.0	NA	20.24	NA	330		5.41
1210	X		6.66	0.14	0.317	750%	6	78	3.14	20%	67.0	30%	20.15	10%	1		5.46
1215	X		6.68	0.02	0.329	5.40%	-34	28	3.20	20%	60.4	100/3	20.21	100			5.50
1220	×		6.69	0.01	0.334	1.540	-42	8	3.01	60°0	60.4	4300	20.32	19%			5.56
1225	×		6.71	0.02	0.342	2.3%	-51	8	2.65	110/0	57.2	5%	20.42	10/0			5.62
1230	×		6.74	0.03	0.350	2.3%	-60	8	2.44	840	52.1	30%	20.62	1%			5.63
1235	×		6.74	-	0.358	22%	-64	4	2.21	90%	49.2	6%	20.59	10/0			
1240	×		6.75	6.01	0.361	0.8%	-66	Z	2.08	60rs	45.1	80/0	20.58	1%			
1245	\perp	X	6.75	_	0.370	2.40/0	-70	4	1.95	6%	43.5	40%	20.56	10%			上
	\perp																
COMMEN	rs:																

^{*}INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature;

 $[\]pm$ 10 mv for Redox Potential; and \pm 10% for Dissolved Oxygen and Turbidity

APPENDIX B Electronic Data Deliverables

From: DEP SRPEDD < SRPEDD@dep.nj.gov>
Sent: Tuesday, January 26, 2021 6:29 PM

To: Mike Piegaro

Subject: 006148, RPC000002, E20130449, HB263444, (Directory: JD17077) - Passed **Attachments:** DTST.TXT; erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; HZRESULT.TXT;

HZSAMPLE.TXT; rstp-7-1-8.txt

The EDD submission via email from (mpiegaro@earthsys.net) on (1/26/2021 1:17:56 PM) with the subjectline "[EXTERNAL] Re: PI# 006148, SRP ID E20130449"

The following identifiers were in the DTST file:

• Directory: JD17077

DESC: Former Hess PR Terminal- Annual GW 1

SRPID: E20130449Submit Date: 1/26/2021

This submission has been issued an SRP Catalog ID: HB263444

Submission status: Passed.

Please do not resubmit.

EDD data deliverable must be submitted only once.

- To fulfill Key Document requirements attach only a copy of this email as an appendix to the document.
- Do not resubmit any approved EDD deliverable as part of a portal submission.

Email ID: OEM_57476 Sub ID:SUB_499151

From: DEP SRPEDD < SRPEDD@dep.nj.gov>
Sent: Tuesday, January 26, 2021 6:28 PM

To: Mike Piegaro

Subject: 006148, RPC000002, E20130449, HB263443, (Directory: JD17100) - Passed **Attachments:** DTST.TXT; erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; HZRESULT.TXT;

HZSAMPLE.TXT; rstp-7-1-8.txt

The EDD submission via email from (mpiegaro@earthsys.net) on (1/26/2021 1:19:11 PM) with the subjectline "[EXTERNAL] re: PI 006148, SRP ID E20130449"

The following identifiers were in the DTST file:

• Directory: JD17100

DESC: Former Hess PR Terminal- Annual GW 2

SRPID: E20130449Submit Date: 1/26/2021

This submission has been issued an SRP Catalog ID: HB263443

Submission status: Passed.

Please do not resubmit.

EDD data deliverable must be submitted only once.

- To fulfill Key Document requirements attach only a copy of this email as an appendix to the document.
- Do not resubmit any approved EDD deliverable as part of a portal submission.

Email ID: OEM_57475 Sub ID:SUB_499140

From: DEP SRPEDD < SRPEDD@dep.nj.gov>
Sent: Tuesday, January 26, 2021 6:28 PM

To: Mike Piegaro

Subject: 006148, RPC000002, E20130449, HB263442, (Directory: JD17122) - Passed **Attachments:** DTST.TXT; erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; HZRESULT.TXT;

HZSAMPLE.TXT; rstp-7-1-8.txt

The EDD submission via email from (mpiegaro@earthsys.net) on (1/26/2021 1:20:21 PM) with the subjectline "[EXTERNAL] re: PI 006148, SRP ID E20130449"

The following identifiers were in the DTST file:

• Directory: JD17122

DESC: Former Hess PR Terminal- Annual GW 3

SRPID: E20130449Submit Date: 1/26/2021

This submission has been issued an SRP Catalog ID: HB263442

Submission status: Passed.

Please do not resubmit.

EDD data deliverable must be submitted only once.

- To fulfill Key Document requirements attach only a copy of this email as an appendix to the document.
- Do not resubmit any approved EDD deliverable as part of a portal submission.

Email ID: OEM_57474 Sub ID:SUB_499129

From: DEP SRPEDD <SRPEDD@dep.nj.gov>
Sent: Tuesday, January 26, 2021 6:27 PM

To: Mike Piegaro

Subject: 006148, RPC000002, E20130449, HB263440, (Directory: JD17184) - Passed **Attachments:** DTST.TXT; erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; HZRESULT.TXT;

HZSAMPLE.TXT; rstp-7-1-8.txt

The EDD submission via email from (mpiegaro@earthsys.net) on (1/26/2021 1:21:36 PM) with the subjectline "[EXTERNAL] re: PI 006148, SRP ID E20130449"

The following identifiers were in the DTST file:

Directory: JD17184

DESC: Former Hess PR Terminal- Annual GW 4

SRPID: E20130449Submit Date: 1/26/2021

This submission has been issued an SRP Catalog ID: HB263440

Submission status: Passed.

Please do not resubmit.

EDD data deliverable must be submitted only once.

- To fulfill Key Document requirements attach only a copy of this email as an appendix to the document.
- Do not resubmit any approved EDD deliverable as part of a portal submission.

Email ID: OEM_57472 Sub ID:SUB_499109

From: DEP SRPEDD < SRPEDD@dep.nj.gov>
Sent: Tuesday, January 26, 2021 6:26 PM

To: Mike Piegaro

Subject: 006148, RPC000002, E20130449, HB263439, (Directory: JD17345) - Passed **Attachments:** DTST.TXT; erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; HZRESULT.TXT;

HZSAMPLE.TXT; rstp-7-1-8.txt

The EDD submission via email from (mpiegaro@earthsys.net) on (1/26/2021 1:22:49 PM) with the subjectline "[EXTERNAL] re: PI 006148, SRP ID E20130449"

The following identifiers were in the DTST file:

Directory: JD17345

DESC: Former Hess PR Terminal- Annual GW 5

SRPID: E20130449Submit Date: 1/26/2021

This submission has been issued an SRP Catalog ID: HB263439

Submission status: Passed.

Please do not resubmit.

EDD data deliverable must be submitted only once.

- To fulfill Key Document requirements attach only a copy of this email as an appendix to the document.
- Do not resubmit any approved EDD deliverable as part of a portal submission.

Email ID: OEM_57471 Sub ID:SUB_499098

From: DEP SRPEDD < SRPEDD@dep.nj.gov>
Sent: Tuesday, January 26, 2021 6:26 PM

To: Mike Piegaro

Subject: 006148, RPC000002, E20130449, HB263438, (Directory: JD17470) - Passed **Attachments:** DTST.TXT; erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; HZRESULT.TXT;

HZSAMPLE.TXT; rstp-7-1-8.txt

The EDD submission via email from (mpiegaro@earthsys.net) on (1/26/2021 1:24:17 PM) with the subjectline "[EXTERNAL] re: PI 006148, SRP ID E20130449"

The following identifiers were in the DTST file:

• Directory: JD17470

DESC: Former Hess PR Terminal- Annual GW 6

SRPID: E20130449Submit Date: 1/26/2021

This submission has been issued an SRP Catalog ID: HB263438

Submission status: Passed.

Please do not resubmit.

EDD data deliverable must be submitted only once.

- To fulfill Key Document requirements attach only a copy of this email as an appendix to the document.
- Do not resubmit any approved EDD deliverable as part of a portal submission.

Email ID: OEM_57470 Sub ID:SUB_499086

From: DEP SRPEDD < SRPEDD@dep.nj.gov>
Sent: Tuesday, January 26, 2021 6:25 PM

To: Mike Piegaro

Subject:006148, RPC000002, E20130449, HB263437, (Directory: JD17516) - PassedAttachments:DTST.TXT; erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; HZRESULT.TXT;

HZSAMPLE.TXT; rstp-7-1-8.txt

The EDD submission via email from (mpiegaro@earthsys.net) on (1/26/2021 1:25:44 PM) with the subjectline "[EXTERNAL] re: PI 006148, SRP ID E20130449"

The following identifiers were in the DTST file:

• Directory: JD17516

DESC: Former Hess PR Terminal- Annual GW 7

SRPID: E20130449Submit Date: 1/26/2021

This submission has been issued an SRP Catalog ID: HB263437

Submission status: Passed.

Please do not resubmit.

EDD data deliverable must be submitted only once.

- To fulfill Key Document requirements attach only a copy of this email as an appendix to the document.
- Do **not** resubmit any approved EDD deliverable as part of a portal submission.

Email ID: OEM_57469 Sub ID:SUB_499075

From: DEP SRPEDD < SRPEDD@dep.nj.gov>
Sent: Tuesday, January 26, 2021 6:24 PM

To: Mike Piegaro

 Subject:
 006148, RPC000002, E20130449, HB263436, (Directory: JD17665) - Passed

 Attachments:
 DTST.TXT; erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; HZRESULT.TXT;

HZSAMPLE.TXT; rstp-7-1-8.txt

The EDD submission via email from (mpiegaro@earthsys.net) on (1/26/2021 1:27:54 PM) with the subjectline "[EXTERNAL] re: PI 006148, SRP ID E20130499"

The following identifiers were in the DTST file:

Directory: JD17665

DESC: Former Hess PR Terminal- Annual GW 9

SRPID: E20130449Submit Date: 1/26/2021

This submission has been issued an SRP Catalog ID: HB263436

Submission status: Passed.

Please do not resubmit.

EDD data deliverable must be submitted only once.

- To fulfill Key Document requirements attach only a copy of this email as an appendix to the document.
- Do not resubmit any approved EDD deliverable as part of a portal submission.

Email ID: OEM_57468 Sub ID:SUB_499064

From: DEP SRPEDD < SRPEDD@dep.nj.gov>
Sent: Tuesday, January 26, 2021 6:24 PM

To: Mike Piegaro

Subject:006148, RPC000002, E20130449, HB263435, (Directory: JD17774) - PassedAttachments:DTST.TXT; erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; HZRESULT.TXT;

HZSAMPLE.TXT; rstp-7-1-8.txt

The EDD submission via email from (mpiegaro@earthsys.net) on (1/26/2021 1:29:03 PM) with the subjectline "[EXTERNAL] re: PI 006148, SRP ID E20130449"

The following identifiers were in the DTST file:

• Directory: JD17774

DESC: Former Hess PR Terminal- Annual GW 10

SRPID: E20130449Submit Date: 1/26/2021

This submission has been issued an SRP Catalog ID: HB263435

Submission status: Passed.

Please do not resubmit.

EDD data deliverable must be submitted only once.

- To fulfill Key Document requirements attach only a copy of this email as an appendix to the document.
- Do not resubmit any approved EDD deliverable as part of a portal submission.

Email ID: OEM_57467 Sub ID:SUB_499053

From: DEP SRPEDD < SRPEDD@dep.nj.gov>
Sent: Tuesday, January 26, 2021 6:23 PM

To: Mike Piegaro

Subject:006148, RPC000002, E20130449, HB263434, (Directory: JD17888) - PassedAttachments:DTST.TXT; erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; HZRESULT.TXT;

HZSAMPLE.TXT; rstp-7-1-8.txt

The EDD submission via email from (mpiegaro@earthsys.net) on (1/26/2021 1:30:21 PM) with the subjectline "[EXTERNAL] re: PI 006148, SRP ID E20130449"

The following identifiers were in the DTST file:

• Directory: JD17888

DESC: Former Hess PR Terminal - Annual GW 11

SRPID: E20130449Submit Date: 1/26/2021

This submission has been issued an SRP Catalog ID: HB263434

Submission status: Passed.

Please do not resubmit.

EDD data deliverable must be submitted only once.

- To fulfill Key Document requirements attach only a copy of this email as an appendix to the document.
- Do not resubmit any approved EDD deliverable as part of a portal submission.

Email ID: OEM_57466 Sub ID:SUB_499042

From: DEP SRPEDD < SRPEDD@dep.nj.gov>
Sent: Tuesday, January 26, 2021 6:23 PM

To: Mike Piegaro

Subject: 006148, RPC000002, E20130449, HB263433, (Directory: JD17655) - Passed **Attachments:** DTST.TXT; erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; HZRESULT.TXT;

HZSAMPLE.TXT; rstp-7-1-8.txt

The EDD submission via email from (mpiegaro@earthsys.net) on (1/26/2021 1:31:25 PM) with the subjectline "[EXTERNAL] re: PI 006148, SRP ID E20130449"

The following identifiers were in the DTST file:

Directory: JD17655

DESC: Former Hess PR Terminal- Annual GW 8

SRPID: E20130449Submit Date: 1/26/2021

This submission has been issued an SRP Catalog ID: HB263433

Submission status: Passed.

Please do not resubmit.

EDD data deliverable must be submitted only once.

- To fulfill Key Document requirements attach only a copy of this email as an appendix to the document.
- Do not resubmit any approved EDD deliverable as part of a portal submission.

Email ID: OEM_57465 Sub ID:SUB_499031

From: DEP SRPEDD < SRPEDD@dep.nj.gov>
Sent: Tuesday, January 26, 2021 6:21 PM

To: Mike Piegaro

Subject: 006148, RPC000002, E20130449, HB263429, (Directory: JD10090) - Passed **Attachments:** DTST.TXT; erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; HZRESULT.TXT;

HZSAMPLE.TXT; rstp-7-1-8.txt

The EDD submission via email from (mpiegaro@earthsys.net) on (1/26/2021 1:33:10 PM) with the subjectline "[EXTERNAL] re: PI 006148, SRP ID E20130449"

The following identifiers were in the DTST file:

• Directory: JD10090

DESC: Former Hess North LF, July GW

SRPID: E20130449Submit Date: 1/26/2021

This submission has been issued an SRP Catalog ID: HB263429

Submission status: Passed.

Please do not resubmit.

EDD data deliverable must be submitted only once.

- To fulfill Key Document requirements attach only a copy of this email as an appendix to the document.
- Do not resubmit any approved EDD deliverable as part of a portal submission.

Email ID: OEM_57461 Sub ID:SUB_499020

From: DEP SRPEDD < SRPEDD@dep.nj.gov>
Sent: Tuesday, January 26, 2021 6:21 PM

To: Mike Piegaro

Subject:006148, RPC000002, E20130449, HB263427, (Directory: JD10216) - PassedAttachments:DTST.TXT; erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; HZRESULT.TXT;

HZSAMPLE.TXT; rstp-7-1-8.txt

The EDD submission via email from (mpiegaro@earthsys.net) on (1/26/2021 1:34:52 PM) with the subjectline "[EXTERNAL] Re: PI 006148, SRP ID E20130449"

The following identifiers were in the DTST file:

• Directory: JD10216

DESC: Former Hess No. 1 LF, July GW

SRPID: E20130449Submit Date: 1/26/2021

This submission has been issued an SRP Catalog ID: HB263427

Submission status: Passed.

Please do not resubmit.

EDD data deliverable must be submitted only once.

- To fulfill Key Document requirements attach only a copy of this email as an appendix to the document.
- Do not resubmit any approved EDD deliverable as part of a portal submission.

Email ID: OEM_57459 Sub ID:SUB_499009

From: DEP SRPEDD < SRPEDD@dep.nj.gov>
Sent: Tuesday, January 26, 2021 6:16 PM

To: Mike Piegaro

Subject: 006148, RPC000002, E20130449, HB263416, (Directory: JD10277) - Passed **Attachments:** DTST.TXT; erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; HZRESULT.TXT;

HZSAMPLE.TXT; rstp-7-1-8.txt

The EDD submission via email from (mpiegaro@earthsys.net) on (1/26/2021 1:36:28 PM) with the subjectline "[EXTERNAL] re: PI 006148, SRP ID E20130449"

The following identifiers were in the DTST file:

Directory: JD10277

DESC: Former Hess South LF, July GW

SRPID: E20130449Submit Date: 1/26/2021

This submission has been issued an SRP Catalog ID: HB263416

Submission status: Passed.

Please do not resubmit.

EDD data deliverable must be submitted only once.

- To fulfill Key Document requirements attach only a copy of this email as an appendix to the document.
- Do not resubmit any approved EDD deliverable as part of a portal submission.

Email ID: OEM_57448 Sub ID:SUB_498998

From: DEP SRPEDD < SRPEDD@dep.nj.gov>
Sent: Tuesday, January 26, 2021 6:11 PM

To: Mike Piegaro

Subject: 006148, RPC000002, E20130449, HB263403, (Directory: JD14256) - Passed **Attachments:** DTST.TXT; erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; HZRESULT.TXT;

HZSAMPLE.TXT; rstp-7-1-8.txt

The EDD submission via email from (mpiegaro@earthsys.net) on (1/26/2021 1:38:01 PM) with the subjectline "[EXTERNAL] re: PI 006148 SRP ID E20130449"

The following identifiers were in the DTST file:

• Directory: JD14256

DESC: Former Hess North LF, Oct GW

SRPID: E20130449Submit Date: 1/26/2021

This submission has been issued an SRP Catalog ID: HB263403

Submission status: Passed.

Please do not resubmit.

EDD data deliverable must be submitted only once.

- To fulfill Key Document requirements attach only a copy of this email as an appendix to the document.
- Do not resubmit any approved EDD deliverable as part of a portal submission.

Email ID: OEM_57435 Sub ID:SUB_498987

From: DEP SRPEDD <SRPEDD@dep.nj.gov> Sent: Tuesday, January 26, 2021 6:11 PM

Mike Piegaro To:

Subject: 006148, RPC000002, E20130449, HB263402, (Directory: JD1448) - Passed **Attachments:**

DTST.TXT; erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; HZRESULT.TXT;

HZSAMPLE.TXT; rstp-7-1-8.txt

The EDD submission via email from (mpiegaro@earthsys.net) on (1/26/2021 1:39:16 PM) with the subjectline "[EXTERNAL] re: PI 006148, SRP ID E20130449"

The following identifiers were in the DTST file:

Directory: JD1448

DESC: Former Hess South LF, Oct GW

SRPID: E20130449 Submit Date: 1/26/2021

This submission has been issued an SRP Catalog ID: HB263402

Submission status: Passed.

Please do not resubmit.

EDD data deliverable must be submitted only once.

- To fulfill Key Document requirements attach only a copy of this email as an appendix to the document.
- Do **not** resubmit any approved EDD deliverable as part of a portal submission.

Email ID: OEM 57434 Sub ID:SUB_498976

APPENDIX C Analytical Data Packages (electronic only)